DOCUMENT RESUME

ED 021 350

EC 000 830

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PERSONAL AND SOCIAL ADJUSTMENT OF GIFTED ADOLESCENTS. CEC RESEARCH MONOGRAPH, SERIES A, NUMBER 4.
Council for Exceptional Children, Washington, D.C.
Pub Date 62
Note- 71p.
Available from- The Council for Exceptional Children, NEA, 1201 16th Street, N.W., Washington, D.C. 20036 ($2.00).
EDRS Price MF-$0.50 HC Not Available from EDRS.
Descriptors- *ADJUSTMENT (TO ENVIRONMENT), ADOLESCENTS, *BEHAVIOR, CONFORMITY, EXCEPTIONAL CHILD RESEARCH, *GIFTED, INTELLIGENCE FACTORS, INTERPERSONAL RELATIONSHIP, PEER GROUPS, PERSONAL ADJUSTMENT, *PERSONALITY, PERSONALITY ASSESSMENT, RESPONSIBILITY, SELF CONCEPT, SELF EVALUATION, SOCIAL ADJUSTMENT
Identifiers- LaForge Suczek Interpersonal Check List, Thematic Apperception Test

The study examined similarities and differences in the personal and social adjustment of intellectually gifted and average adolescents along six criteria: independent-dominant and responsible-cooperative interpersonal behavior, moderation of interpersonal behavior, unity or integration of personality, self acceptance, and accuracy of self perception. Two matched groups of 42 subjects each, one with IQ's from 130 to 150, the other with IQ's between 90 and 110, completed the Thematic Apperception Test (TAT) and the LaForge-Suczek Interpersonal Check List. Additional interpersonal ratings were secured from teachers and classmates. Results on interpersonal behavior indicated that the superior students were significantly higher in independent-dominant traits, aggressive-rebellious traits, and responsible-cooperative traits. On the TAT average students expressed a higher proportion of themes of masochism-weakness and conformity-trust. On concepts of ideal traits a significantly larger number of average subjects fell above the median on the responsible-cooperative cluster. On all other items, superior students failed to differ significantly. It was thus concluded that factors other than intellect influence personal and social adjustment. Earlier studies are reviewed, and 76 references are cited. Twenty-five tables and an appendix present data. (JD)

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CEC RESEARCH MONOGRAPH

Series A, No. 4

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Library of Congress Card Catalog No. 62-18777

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PERSONAL AND SOCIAL ADJUSTMENT OF GIFTED ADOLESCENTS

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CHAPTER

ACKNOWLEDGMENTS

Special appreciation should first of all be extended to the many teachers and students in the public schools of Syracuse, New York, for their active cooperation in the study. Dr. Paul Miller, Superintendent of Schools, and Mr. David Sine, Research Division, Board of Education, were particularly helpful in expediting the progress of the research. I also wish to thank the following members of my doctoral advisory committee for their constructive criticisms: Dr. Matthew J. Trippe, Chairman; Dr. Louis A. Fliegler; and Dr. Edward J. Murray. The assistance of Dr. Dorothy A. Cole in scoring TAT protocols was greately appreciated as well as the advice of Dr. Charles Willie with respect to determining social class characteristics of subject groups and the valuable suggestions of Dr. Jack Merwin concerning certain aspects of the statistical analysis.

INTRODUCTION

About 100 years ago a major change occurred in the community's attitude toward the highly intelligent child. Before 1850, a precocious child frequently became the protégé of a prince or king, was awarded special privileges and often attained a high social status. In subsequent years physicians and educators more frequently discussed the gifted child as a potentially abnormal individual. Terman (1954) once observed that child prodigies in the early 1900's were in bad repute because of the prevailing belief they were usually psychotic or suffered from severe emotional tensions. "Early ripe, early rot" was a slogan frequently encountered. Exceptionally bright children were expected to burn themselves out quickly or develop "post-adolescent stupidity."

This public image of the intellectually gifted tended to prevail until discredited by the longitudinal studies begun by Terman and his associates at Stanford University in the 1920's. Terman found the personal and social adjustment of gifted children was significantly *better* than that of the general population. Numerous investigations have supported these findings. Few of the generalizations originally made by Terman in 1925 about the superior personal and social characteristics of the highly intelligent have been seriously questioned. In study after study, children and youth of superior intellect have been reported to demonstrate superior adjustment and enhanced social status when compared to subjects of average or inferior intelligence.

Hollingworth once charged that an unfortunate malice existed in America toward the person of superior intelligence. This climate of opinion no longer seems to prevail. In an era when nations are engaged in the race toward scientific superiority and the exploration of space, individuals with special talents and abilities are once again obtaining greater stature and social acceptance. However, in the reaction against popular viewpoints of another day, stereotypes will often develop in the opposite direction. If there was previously a tendency to de-evaluate the gifted, now the halo threatens to encompass all aspects of their behavior. If they were once regarded as abnormal in personal and social adjustment, now the trend is toward overestimating their adjustive capacities. The superior social and character traits of the highly intelligent are receiving a good deal of emphasis in the professional literature. The following statement is one example:

> The organizing activity of the mind, which . . . gifted children possess in a high degree . . . makes them active participants in the process of growing up emotionally . . . They early learn that they cannot always have what they want. Understanding or perceiving the situation clearly, they act on thinking rather than on the impulse of the moment. Seeing more clearly the consequences of certain behavior, they are willing to forego an immediate satisfaction in favor of a more distant goal . . . Many gifted adolescents work out problems of growing up with a minimum of conflict with parents (Strang, 1955).

Such generalizations about the superior adjustment of the gifted hardly appear to be justified on the basis of previous research in this area. In a commentary on his original studies, Terman (1954) cautioned the reader to bear in mind the great variability of the gifted group in respect to the various personality traits measured. He acknowledged that the degree of superiority of gifted children was less marked for traits indicative of emotional stability and social adjustment than for intellectual and volitional traits. Yet, we tend to minimize this lack of homogeneity among the gifted and the minor differences between them and the general population in respect to personal and social adjustment.

In discussing the implications of research about the gifted, Newland (1959) recently observed that a large portion of these studies warranted only cautious generalization. He proposed a more critical examination of previous research in terms of *the population studied, the situation in which the study was made* and *the particular methodology employed at the time.* With these criteria in mind, the more important studies on the personal and social adjustment of the gifted will now be reviewed.

Previous Research Findings

Research relevant to the organization of the present study may be divided into several areas:

1. Research which reports significant differences in personal and social adjustment between gifted subjects and subjects of average intelligence.
2. Research which reports essential similarities in the personal and social adjustment of gifted subjects and subjects of average intelligence.
3. Research concerning the types of personal and social maladjustment differentiating subjects of superior and average intelligence.
4. Research on the personal and social adjustment of subjects of superior and below average intelligence.
5. Research on the personal and social adjustment of individuals of varying levels of social class status.

Differences in the Personal and Social Adjustment of Intellectually Gifted and Average Subjects

The classic studies dealing with the over-all adjustment of highly intelligent subjects are those of Terman (1925) and his associates. Results of this longitudinal research were published in four separate volumes. The findings most relevant to the present investigation however are presented in the original volume, *Mental and Physical Traits of a Thousand Gifted Children.* Therefore, information about the population and the procedures in this study will be discussed in detail.

In the process of identifying "gifted" subjects, Terman selected children who were within the top one percent of the school population in degree of brightness. The school population canvassed was one of nearly a quarter million in an urban and semi-urban area of California. The main experimental group, upon which most of Terman's generalizations are based, was composed of 643 subjects, ranging in age from two to 13. The largest number of cases were found in the age range eight to 12. The mean corrected intelligence quotients (1916 Stanford-Binet) for the main experimental group were 151.33 with a standard deviation of 10.19. This group was made up of 54.7 percent boys and 45.3 percent girls. The following percentages were quoted for the nationality origin of the main experimental group: English 30.7 percent, German 15.7 percent, Scotch 11.3 percent, Irish 9.0 percent, French 5.7 percent, Scotch-Irish 2.8 percent, Swedish 2.5 percent, Italian 1.4 percent, Welsh 1.4 percent, Austrian 1.3 percent. The rest of the subjects were distributed among 18 other racial or nationality origins.

These data indicated that, in comparison with the general population of the cities concerned, the gifted group showed a 100 percent excess of subjects of Jewish faith, a 25 percent excess of parents who were of native parentage, a probable excess of Scotch ancestry, and a deficiency of Latin and Negro ancestry. The social and economic status of the main experimental group was described by a variety of measures. On the basis of the Taussig classification of the fathers' occupations, 31.4 percent were professionals, 50 percent were semi-professional and business, 11.8 percent were skilled laborers, and 6.8 percent were semiskilled and unskilled laborers. In comparison with the proportion of professionals and semi-professionals in the 1910 census of the communities concerned, the main experimental group was selectively high in occupational status. Ratings of the occupations of parents on the Barr Scale gave a mean which was far above the mean Barr rating for the general population. Ratings of 288 random homes of the gifted on the Whittier Scale for home grading yielded a mean score above that for unselected homes. The neighborhoods in which 305 randomly selected homes of gifted children were located rated only a little above "average." The average parent of the gifted child had covered about twice as many school grades as the average adult in the population.

Children in the main experimental group were rated on 25 traits by one teacher and by one of the parents. In addition, teacher ratings were obtained for 523 children (aged eight to 14) in a control group of children enrolled in the same classes as the gifted. The Raubenheimer-Cady battery of tests was also given to 532 gifted subjects aged seven to 14 and to a control group of 533 unselected subjects aged 10 to 14. The battery consisted of the following tests: 1. Two tests of the tendency to overstate in reporting experience and knowledge 2. Three tests of wholesomeness of preferences and attitudes (reading preferences, character preferences, and social attitudes, respectively) 3. A test of cheating under circumstances that offered considerable temptation. 4. The Woodworth-Cady test of emotional instability (a self-analysis inventory).

TABLE 1

PERCENTAGES OF GIFTED SUBJECTS RATED BY TEACHERS ABOVE THE MEAN OF THE CONTROL GROUP*

Traits	Percent	
Volitional traits		
Will power and perseverance	84	
Desire to excell	84	
Self-confidence	81	
Prudence and forethought	81	
Average of volitional traits		82.5
Emotional traits		
Sense of humor	74	
Cheerfulness and optimism	64	
Permanence of moods	63	
Average of emotional traits		67
Moral traits		
Conscientiousness	72	
Truthfulness	71	
Sympathy and tenderness	58	
Generosity and unselfishness	55	
Average of moral traits		64
Social traits		
Leadership	70	
Sensitivity to approval	57	
Popularity	56	
Freedom from vanity	52	
Fondness for large groups	52	
Average of social traits		57.4

* Adapted from L. M. Terman, & M. H. Oden *et al.*, *The Gifted Child Grows Up: Twenty-Five Years Follow-Up of a Superior Group, Genetic Studies of Genius*, Vol. IV (Stanford: Stanford University Press, 1947), p. 52.

A summary of teacher ratings is presented in Table 1. It is of particular interest to note that the "gifted" subjects were rated above the mean of the control group on the following traits related to interpersonal behavior: will power and perseverance, self-confidence, desire to excel, sense of humor, cheerfulness and optimism, conscientiousness, truthfulness, sympathy and tenderness, generosity and unselfishness, leadership, sensitivity to approval, popularity, freedom from vanity, and fondness for large groups.

In their analysis of the findings on the test battery, Terman and Oden reported the percentage of gifted subjects who equaled or surpassed the mean of the control subjects in each of the seven character tests:

	Percentage of Boys	Percentage of Girls
1. Overstatement A	57	59
2. Overstatement B	63	73
3. Book preferences	74	76
4. Character preferences	77	81
5. Social attitudes	86	83
6. Cheating tests	68	61
7. Emotional stability	67	75

On the basis of this data, Terman concluded that the gifted children were superior in social, moral, emotional, and volitional traits when compared to the general population. On the Raubenheimer-Cady series of character tests as well as on teacher and parent ratings, individuals of superior intelligence were far above the mean of the control groups in traits related to personal and social adjustment.

The follow-up studies on the original experimental group indicated a reasonably consistent picture in childhood, adolescence and maturity. The gifted group reportedly maintained a superior adjustment in later life. A follow-up study (Terman, 1940) of the main experimental and control groups was conducted. Each man rated himself and was rated also by his wife or a parent. Although the three sets of ratings were made independently, agreement was unanimous on four traits upon which the two groups differed most widely: "persistence in the accomplishment of ends," "integration toward goals, as contrasted with drifting," "self-confidence" and "freedom from inferiority feelings." Terman concluded that the greatest contrast between the "gifted" and the control groups was in the drive to achieve and in all-round mental and social adjustment.

In 1940 and again in 1945, the gifted subjects were rated for general mental health. In 1940, 80.55 percent were judged as making a satisfactory adjustment, 15.26 percent showed some maladjustment and 4.19 percent were seriously maladjusted. The incidence rate of psychosis for "gifted" subjects was slightly below expectancy for the general population in both 1940 and 1945. The differences between the gifted and control groups in prevalence of mental disturbance, although not substantial, were in slight favor of the gifted (1947).

Research by Hollingworth also has had a considerable impact on popular concepts of the personal and social characteristics of the intellectually gifted individual. In collaboration with Rust (1937), she contrasted 55 highly intelligent adolescents with the norms for college and adult groups on the Bernreuter Inventory of Personality. The subjects were 26 boys and 19 girls with an average age of 18 and one-half years. The IQ's of all had been taken in early childhood on the Stanford-Binet and ranged from 135 to 190 with a median of 153. All but four of the subjects were Jewish. Hollingworth and Rust found the highly intelligent subjects to have lower scores on the Neurotic Tendency category and higher scores on the Dominance-Submission and Self-Sufficiency categories of the Bernreuter test than the normative populations. The divergence was noticeable for both sexes. The authors concluded that adolescents who as children tested from 135 to 190 (Stanford-Binet IQ) are "much less neurotic, much more self-sufficient, and much less submissive" than college students in general, or adults of the mental calibre represented by the Bernreuter norms. They acknowledged the possible influence of the fact that almost all of the adolescents were Jewish and that the data were based on self-estimates rather than actual conduct. In 1940, Hollingworth, Terman and Oden concluded on the basis of evidence to that date, ". . . the older studies are confirmed by the new in reporting that children from 130 to 150 IQ as a group showed superior adjustment of all sorts on the basis of character and temperament."

Witty (1940) evaluated the general social status of 50 gifted subjects (Stanford-Binet IQ of 140 and above) over a period of 10 years. At the time of the original study the average age of the 26 male and 24 female subjects was 10 years, five months. General information was obtained on social and moral traits, activities in and out of school, talents, interests and future plans. Similar data were also obtained for a control group (IQ 90 to 110) paired with the gifted according to sex, age, and race. Both groups were primarily of English, Scotch, German and Jewish ancestry. The average yearly income of the fathers of the gifted, however, was far above that of the average controls. At the time of the first investigation (1924-1925), data regarding social and moral traits were obtained from two objective tests of "overstatement" and from teachers' ratings of character. The gifted group was found distinctly superior on the measures of character development. In the second study (1929) gifted subjects did not appear to have lost in sociability and general adaptability on the basis of teacher ratings. At the time of the third study (1933-1934), 10 of the gifted subjects appeared to be maladjusted, three of them decidedly so. All had previously reached or exceeded medians for children of their ages upon character tests. The 10 maladjusted were of two general types: 1. The withdrawn, who displayed anxiety feelings and marked insecurity. 2. The indifferent, socially inadequate, bored dilettantes who understood life's issues but refused to participate in them.

Ramaseshan (1957) studied the social and emotional adjustment of a group of adolescent boys and girls, divided into categories as the very gifted, the moderately gifted and the average. Intelligence classification was determined by a variety of group and individual tests. Subjects were rated on a five-point scale of social adjustment by teachers and on the Washburne Social Adjustment Inventory for traits of truthfulness, helpfulness, alienation, sympathy, purpose, impulse judgment, control and superior wishes. The social adjustment of the gifted was found to be superior to that of the average.

Miller (1956) attempted to ascertain social status differences between children classified as "mentally superior," "mentally typical," and "mentally retarded." IQ ranges on the Primary Mental Abilities Test for these three groups were 120 to 140, 90 to 110, and 60 to 80, respectively. Of the 120 fourth and sixth grade subjects included, 65 were boys and 55 girls. Social status was defined as the subject's acceptance or rejection as a friend. Miller found social status to be linearly related to intelligence up to an IQ of 150. The Superior children were most wanted as friends by classmates. Socioempathy, or the ability to perceive the social status of self and others, also covaried with intelligence.

A study by Martyn (1957) suggested that social status may vary to some extent with age or grade placement. Data on 354 gifted subjects in grades four through 12 were compared with that on 3000 other students. The gifted included subjects with IQ's above 140 on the Stanford-Binet and above 130 on the Wechsler-Bellevue. Cunningham's Classroom Social Distance Scale was used to rate the social acceptance of the gifted by their classmates. Martyn reported that the mean Social Acceptance score for the total group of gifted students was significantly greater ($p<.005$) than for their classmates. However, the mean acceptance score at the high school level for 43 gifted subjects was not significantly higher than for 491 classmates. At the junior high and elementary school levels, mean social acceptance scores of the gifted were significantly higher.

Similarities in the Personal and Social Adjustment of Intellectually Gifted and Average Subjects

Other research findings accent the similarities rather than the differences in personality characteristics and adjustment of the intellectually gifted and the average. In reviewing the literature up to 1940 concerning intelligence and personality tests, Lorge (1940) noted the wide diversity of findings. The range of correlations between intelligence and various aspects of personality as measured by questionnaires and inventories was from .00 to .43 in absolute value with half the correlations falling between .00 and .10. Correlations between intelligence and "psychoneurotic tendency" ranged from +.18 to −.43. Correlations between intelligence and ascendance-submission ranged from +.16 to −.15. Intelligence was more highly correlated with personality characteristics measured by word-association type tests, by tests of personality performance and tests of moral knowledge and judgment. For example, tests of moral knowledge (ethical discrimination, social intelligence and moral judgment) gave significant positive correlations with intelligence, ranging from +.12 to +.65 or better. Tests of personality performance measuring tendency to cheat, resistance to suggestibility, etc., showed a wide range of correlations with intelligence, from −.49 to +.77. Many disparities existed from study to study.

Angelino and Shedd (1955) studied a group of 101 children from the Oklahoma schools, aged six to 13. IQ's on the California Test of Mental Maturity ranged from 135 to 159. The scores of these highly intelligent subjects on the Rosenzweig Picture Frustration Test were compared to the normative data for this test. Angelino and Shedd reported that the subjects of high intelligence did not appear to meet everyday stress situations any better than the person of average intelligence. They reacted to stress situations very much the same as the average child.

Wrenn, Ferguson and Kennedy (1936) presented data regarding personality differences of junior college students whose intelligence scores on the American Council on Education Psychological Examination deviated widely. Three hundred twenty-four men and women students who scored at the upper five percent of the distribution were compared with 240 students who scored at the lower 15 percent.

The Bernreuter Personality Inventory was administered to all subjects. This test attempts to measure a number of traits. A high score on the Neurotic Scale infers "emotional instability." A high score on the Self-Sufficiency Scale describes "those who prefer to be alone, rarely ask for sympathy or encouragement and who tend to ignore the advice of others." A low score on the Self-Sufficiency Scale identifies those who "dislike solitude and who often seek advice and encouragement." A high score on the Dominance Scale indicates a person "who tends to dominate in face-to-face relationships." Wrenn *et al.*, found that extremes of intelligence did not appear to be associated with degree of "emotional stability" (Neurotic Scale). The highly intelligent students, however, were much more "self-sufficient" and "dominant" than students of lower levels of ability or the average of the college population. High mental ability appeared to be associated with independence of mental and social habits. On the other hand, it was found that men students with low intelligence test scores were more "dominant" in social behavior than men at the high intelligence level. They also appeared to be more "self-confident" on the basis of the greater definity in their responses and a greater tendency to exaggerate statements of their own prowess. This suggested to the authors that the inferior group compensated for feelings of inferiority by assuming social dominance and greater social aggressiveness.

Strang (1956) compared some of the viewpoints of gifted adolescents about the problems of growing up with those of their classmates. Subjects were drawn from grades seven to 12 and gifted students were selected on the basis of an IQ of 120 or more on a group test which was not specified. The relative frequency of problems cited by senior high school students is relevant to the present investigation. Strang found that students of average and superior intellect were more or less equally concerned with the following types of problems: dissatisfaction with own body and status; problems of sibling relationship; concern with problems of parents or family; concern with social behavior; making friends and getting along with people. The gifted appeared to show more concern for the following problems: desire for greater acceptance by peers; concern with boy-girl relationships; and lack of closeness and rapport with parents. On the basis of these findings, however, similarities in the adjustment problems of these two groups were more in evidence than gross differences.

Getzels and Jackson (1958) explored the relationship between intelligence and several measures of psychological health among 292 boys and 241 girls enrolled in grades six to 12 in a private Midwestern school. All subjects were given an individual intelligence test (in most cases the Wechsler Intelligence Scale for Children) and the following tests of psychological health: Group Rorschach, a Direct and Indirect Sentence Completion Test and the California Test of Personality. The mean of the correlations between the measure of intelligence and the measures of psychological health was .04 with a range from −.56 to +.56. Because of the extreme range and average size of the correlation coefficients, the authors pointed to the dangers inherent in making broad and sweeping statements concerning the relationship between psychological health and cognitive functioning in adolescents. They emphasized the need to consider sex, school grade, the type of psychological health criterion and the type of cognitive functioning measured, all of which appeared to have some effect on variability in psychological health.

Types of Personal and Social Maladjustment Differentiating Superior and Average Subjects

The evidence concerning the types of personal and social maladjustment shown most frequently by highly intelligent subjects is of a conflicting nature. Several studies conclude that the adjustment problems of the intellectually gifted are very similar to those of average individuals. Zorbaugh and Boardman (1936) reviewed the case histories of 184 children referred to a Clinic for the Social Adjustment of the Gifted at New York University over a period of three years. An IQ of 130 or above was employed as the criterion of giftedness. Symptoms and specific problems were of a wide variety and included the entire gamut of adjustment problems: enuresis, masturbation, stuttering, hysteria, compulsions, mild obsessions, seclusiveness, temper tantrums, quarreling, defiance, etc. Neville (1937) also reported a wide range of social adjustment problems among 78 highly intelligent children referred to a psychological clinic. Maladjustments of these children, aged three to 13, included fits of depression, stammering, stealing, outbursts of temper, extreme jealously and expressions of self-doubt.

Other studies report that intellectually gifted youngsters exhibit distinct types of social maladjustment. Lewis (1943) concluded that gifted children who were maladjusted seldom showed evidence of aggressive behavior. Instead, their maladjusted behavior more often was of the withdrawing or egocentric type. Maladjustment took the form of daydreaming, nervousness, moods, depression, oversensitivity to self, inattentiveness in class, laziness, self-conciousness, suggestibility and overcriticism of others. Levy (1931) also reported on the types of maladjustment shown by individuals of different intelligence levels. He examined 700 case records of children in the age range three to 18 who had been referred to the Institute of Juvenile Research in Chicago. Individuals with IQ's below 80 were eliminated. He found that as intelligence level rose the percentage of "personality" and "emotional" problms increased markedly, whereas "delinquency" diminished with increase in IQ. The categorization of types of problems was not entirely clear-cut. Personality and emotional problems were defined as "problems in getting along with self and others, temper tantrums, negativism, quarrelsomeness, mood changeability, sullenness and stubborness." Delinquency was defined as resistance to organized authority, truancy, stealing, and destructiveness to personal property.

Comparison of Highly Intelligent and Retarded Subjects

There is no dearth of research comparing the intellectually gifted individual with the mentally retarded or intellectually inferior. Research findings are in general agreement as to the superiority of the highly intelligent in personal and social adjustment in comparison to deviates at the other end of the intellectual continuum.

McGehee and Lewis (1942), on the basis of an extensive study of school children in 36 states, concluded that the child of superior intelligence would have a much better chance of developing a desirable personality than the child retarded in intelligence. Their subjects included 45,000 children in grades four to eight inclusive. The group designated as mentally superior included the top 10 percent and the mentally retarded the lowest 10 percent of this population as measured by the Kuhlmann-Anderson Test. Two measures of personality were used, a personality inventory, and teachers' ratings of 70 personality traits. Both types of data pointed "quite unequivocally" to more desirable personalities among the intellectually superior than the retarded. Laycock (1933) and McElwee (1932) also compared the personality traits of children of superior and inferior school performance and these studies are sometimes cited as evidence of the superior social traits of the intellectually gifted.

A study by Lightfoot (1951) of the personality characteristics of bright and dull children employed more comprehensive techniques of measurement. Lightfoot compared 48 superior subjects with 56 mental retardates. The superior ranged in Binet IQ from 130 to 200, the retarded from 68 to 104. All these children were enrolled in an experimental school in the New York City public school system. Subjects were matched as closely as possible in terms of sex and age. The gifted ranged in age from 10 years, one month to 12 years, 10 months, the retarded from 10 years, one month to 13 years, five months. The gifted included 18 girls and 30 boys, the retarded 20 girls and 36 boys. Lightfoot studied these children by means of home visits, interviews with the children, a psychological test, a rating scale, a projective test situation and a general case study. Bright children were compared to the dull children on 20 of the need variables identified by Murray. The Superior children rated significantly higher on Achievement, Affiliation, Autonomy, Cognizance, Creativity, and Dominance needs on all six of the measurement techniques used. They were higher on Appearance, Protectiveness, and Recognition needs on five techniques and higher on Aggression and Exhibition on two techniques. The dull children were significantly higher on Dependence needs on five techniques, Seclusion on three, and higher on Defendance, Deference, Placidity and Rejection needs on two techniques. According to the sixth-grade norms for the Maller Personality Sketches (a self-analysis inventory) the Superior were reported to be "somewhat better adjusted" than the Retarded group.

Comparisons of the Personal and Social Adjustment of Individuals of Varying Social Class Status

There is also a large body of research on the relationship between social class position and personal and social adjustment. Hoffeditz (1934), Springer (1938) and Brown (1936) found low status groups to be more neurotic, less dominant, less self-sufficient, more irritable and more insecure than middle and high status groups on the basis of such personality tests as the Bernreuter and Brown Personality Inventories. Stagner (1935) found that lower class college students more frequently developed traits of nervousness, introversion, inferiority feelings, social passivity and seclusiveness. Douvan (1956), in a study of a large group of adolescents from middle and working class homes, concluded that middle class youngsters were characterized by more autonomous behavior and more generalized success strivings than working class youngsters.

In a review of the literature up to 1952, Auld (1952) found that one-third of the studies reported appreciably better adjustment among middle and higher class subjects. In every study where significant differences existed between social classes, middle and higher class subjects received more favorable personality test scores than lower class subjects. However, differences were generally greater when there was considerable spread in social class status among subject groups and when *social* (dwelling area, education and occupation) rather than *economic* (income, possessions) criteria of social class status were employed. Contradictory findings were reported for example by Davidson (1943) in an extensive investigation of the relationship between economic background and personality adjustment. Davidson's subjects included 60 boys and 42 girls in the age range nine to 13. Forty-nine were bright and talented children attending a New York public school. Fifty-three attended a New York City private school serving children from families of high income. The mean IQ was 143 and all children in the study tested above 120. Income was used as the measure of socio-economic status. Despite the uniformly high intellectual capacity of the subjects, there was as wide a variation in personality characteristics as would be expected in any sampling of children. No significant differences were found among the income levels in such traits as attitudes toward one's family, feelings of inferiority or in various types of interests. Also, on the basis of Rorschach test responses, Davidson concluded there was no evidence of a relationship between income and such patterns of personality as introversion and extroversion, constriction, control in emotional situations, nor other aspects of personal and social adjustment. Neither intelligence nor income, therefore, appeared to be a significant source of variation in determining the degree of adjustment or specific types of personality characteristics.

The study previously cited by Levy (1931) reported that lower class children tended to demonstrate different problems in adjustment than higher class children. Children from the higher socioeconomic classes presented more emotional and personality problems whereas children belonging to the lower classes more frequently displayed social problems. Levy's data also suggested that intelligence was a more significant factor than social class in the etiology of children's adjustment problems. When these two variables operated in different directions. intelligence appeared to carry more weight in shaping behavior.

Organization of the Present Study

Previous research on the comparative social and emotional adjustment of intellectually gifted and average subjects deserves a critical examination. One important issue is *the representativeness of the population studied.* The most widely publicized investigations (Terman, Hollingworth, Witty) are open to criticism because subjects were not only of high intelligence but also disproportionately higher in social class status than the general population. When a group is highly select in social class status as well as in intelligence one may legitimately question whether the differential results are a function of contrasting levels of intelligence or contrasting levels of social class. Although Terman's findings were often confirmed, corroborative studies frequently drew subjects from university communities because of the relative convenience of locating bright children and were also open to the same possibility of social class bias.

Research populations of gifted subjects have often been unique in religious and nationality backgrounds. In the study by Hollingworth and Rust, for example, the intellectually gifted were almost exclusively of Jewish faith. Research generally has neglected to acknowledge the influence of other factors besides intelligence on personal and social adjustment. Intelligence may account for some but not necessarily for all of the variance in adjustment. Individuals need to be considered in terms of the particular sub-populations of which they are part by virtue of age, sex, social class status, ethnic stock, nationality, racial origin and religious background. In the present study, a fundamental objective was to equate the Intellectually Gifted and Average groups as closely as possible in terms of these associated variables.

Another source of bias in previous research was the unique *nature of the setting* in which studies were made. Highly intelligent subjects were often enrolled in special classes or special schools whereas the average control subjects were drawn from other types of school environments. Children in special classes for the gifted are often chosen on the basis of leadership or other superior character and social traits as well as superior intelligence. The selection process tends to identify socially-responsible, well-adjusted students. The special class setting with its emphasis upon individualization and optimum stimulation also may have a differential effect upon personality and social traits. Findings of significant differences between such groups and random samples of average students in the regular classroom might be a reasonable expectation. Therefore, in the present study, an equal number of subjects of superior and average intelligence were selected from the regular classes of the same senior high schools in one large city school system.

A third consideration is *the particular methodology employed at the time of previous research* on the adjustment of the intellectually gifted. As Lorge (1940) pointed out, early investigators relied on a number of "catch all" personality scales or performance tests, each of which was designed to measure some particular aspect of adjustment such as "psychoneurotic tendency," "extroverted behavior" or behavioral manifestations of lying, cheating or suggestibility. In recent years, more sophisticated methods of personality assessment have been developed. Whereas Terman and other early investigators depended primarily on empirical judgments or on tests of narrow aspects of personality, today we are able to employ more systematic assessment techniques founded upon more inclusive theories of personality.

In the period of years since Terman's original study, there also has been a change in prevailing concepts of psychological health. Much of the previous research defined adjustment in terms of conformity to social norms or the possession of certain socially-sanctioned character traits. The intellectually gifted have been reported to possess traits such as self-sufficiency, autonomy, dominance, responsibility, will power, desire to excel, sympathy, conscientiousness, and perseverance more frequently than subjects of average intelligence. These traits correspond to those most highly valued by the democratic, middle-class Protestant ethic in our culture. When other criteria for adjustment were employed, differences in personal and social adjustment among the gifted and the average were not so pronounced. No significant differences were found on the basis of reactions to stress situations. Marked differences were not in evidence in subjective reports of problems. A survey of attitudes and an analysis of Rorschach responses failed to reveal marked differences. Consistent differences were not found in types of maladjustive symptoms. Terman reported a slightly lower incidence of mental disturbance in the adult gifted than in the general population. However, base rates for mental disturbance in the general population are recognized to be of doubtful reliability (Pearson & Kley, 1957). Until greater reliance can be placed on base rates and age expectancies for mental disorders, comparisons of incidence rates need to be interpreted with caution. Therefore, previous research findings must be examined critically in the light of the criteria for adjustment.

Psychological health certainly should not be evaluated entirely on the basis of surface behavior, conformity to social norms and incidence rates. A major objective of the present study was to develop a multi-dimensional definition of personal and social adjustment. A second goal was to develop objective procedures for the assessment of these criteria.

In summary, the major purpose of the present study was to evaluate the relative personal and social adjustment of adolescents of superior and average intelligence. Biased sampling procedures in some of the previous investigations in this area indicated the need for better control of other variables which influence adjustment by equating subjects as closely as possible in social-class status, age, sex, nationality and religious background. A second goal was to insure that both subject groups were drawn from the same type of school environment. Furthermore, an attempt was made to employ a broader concept of positive adjustment and to adopt more comprehensive techniques of personality assessment than was characteristic of previous research in this area.

THE SAMPLE

Criteria for Selection of Subjects

The general plan of the study was to identify two groups of adolescents, one intellectually gifted, the other intellectually average. Subjects in the two groups were to be equated as nearly as possible on the basis of social class position, chronological age, sex, religion and nationality background. Other criteria for inclusion of subjects were as follows: 1. Enrollment in regular classes in grades nine through 12 in the public high schools of Syracuse, New York. 2. Attendance of subjects in their particular school and home classroom for at least six months prior to the initiation of the study. 3. Approximately equal representation of gifted and average subjects from each senior high school. 4. White racial stock; Negro subjects were excluded. Originally it was planned to continue sampling until 25 subjects were identified in the following four subgroups: Superior Intelligence-Low Social Class; Superior Intelligence-High Social Class; Average Intelligence-Low Social Class; Average Intelligence-High Social Class.

Definition of Intelligence

The term intelligence, as employed in this study, refers to cognitive functioning as measured by the individual's performance on a standardized intelligence test. In this case the measure employed was the Total Mental Factors IQ on the California Test of Mental Maturity, Advanced Form (C.T.M.M.) (Sullivan, Clark & Tiegs, 1951). The actual intelligence quotients used to delimit Superior and Average intelligence will depend upon the particular intelligence test used and the variability of its sampling distribution. Individuals designated Superior on the basis of the Stanford-Binet Scale include those with IQ's from 130 to 150, representing a percentile range of .9699 to .9991. Individuals designated as of Average intelligence on the basis of the Stanford-Binet Scale include those with IQ's between 90 and 110, a percentile range from .2643 to .7357. The same range of IQ's from the C.T.M.M. would not necessarily identify comparable groups. Therefore, percentile rather than IQ scores were employed to select individuals of Superior and Average intelligence. Superior intelligence (or intellectual giftedness) refers in this study to those individuals testing between the 95th and the 99th percentiles on the C.T.T.M. Average intelligence refers to those testing between the 25th and the 75th percentiles on the C.T.T.M. Total Mental Factors IQ's for these percentile ranges vary as follows for the four high-school grades:

	25th to 75th Percentile	95th to 99th Percentile
Ninth Grade	88 to 112	124 to 136
Tenth Grade	91 to 113	125 to 137
Eleventh Grade	92 to 114	127 to 138
Twelfth Grade	94 to 117	129 to 140

The standard error of measurement of Total Mental Factors IQ's based on 400 students in grades nine to 12 is 3.4 (Sullivan, Clark & Tiegs, 1951). However, in order to insure no overlapping of scores between groups, subjects in the Average group were required to have IQ's between 90 and 110, representing a percentile range of .30 to .60. Percentiles were computed as of the date the test was administered and the class level of the subject at that time. Thus, a tenth grader with an IQ of 124 would qualify for the Superior group if the test had been given during the ninth grade. It was required that the C.T.M.M. had been administered no longer than two years prior to the initiation of the study.[1]

Definition of Social Class Status

The Index of Status Characteristics (I.S.C.) based on three factors, father's occupation, father's education, and type of dwelling area, was used to define social class position. Status ratings for *father's occupations* were derived from a guide for rating job titles published by the University of Chicago (McCall, 1956). These occupational schedules, gathered in an area sample of the Chicago metropolitan community, are designed for use in large urban communities and represent a refinement of the occupational status indices originally published by Warner, Meeker and Eells (1949). Status ratings for *father's education* were based on the Warner, Meeker and Eells seven-point rating scale. Ratings for type of *dwelling area* were obtained from data published for the Syracuse urban area (Willie, 1957). Standard scores for three variables related to type of dwelling area (monthly rental paid, home value, and number of single family homes) were averaged and a composite standard score derived for each of the 61 city census tracts. The composite scores were ranked on a seven-point scale. Individual subjects were then assigned a rating on the basis of residence by census tract. The status ratings for father's occupation, father's education and dwelling area were weighted five, four, and three respectively in the computation of the Index of Status Characteristics. Subjects in the two main groups were assigned either to a High Social Class or a Low Social Class subgroup, using an I.S.C. score of 51 as the cutting point for assignment of individuals to either subgroup. The High Social Class group included Upper, Upper Middle and Lower Middle Class subjects and the Low Social Class group included Upper Lower and Lower Lower Class subjects.

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[1] Although "giftedness" usually has been defined in previous studies on the basis of the single IQ variable, the terms "gifted" and "highly intelligent" are not synonymous. Some years ago, Witty (1940) observed that intelligence tests are measures of "over-learned" material and often fail to identify creative ability. Research by Getzels and Jackson (1958) demonstrates that the highly creative individual is not always the one who demonstrates high cognitive functioning on mental tests. Thus, subjects classified here as "intellectually gifted" would not necessarily fulfill this broader definition of "giftedness" which includes a potential for creative work.

Selection Procedures

Test scores on the California Test of Mental Maturity, available at the Board of Education office of the Syracuse Public Schools, were inspected for the preliminary screening of Superior and Average students. Initial lists of subjects included all boys and girls in the five city high schools with IQ's above 120 and IQ's between 90 and 110. Three of the five senior high schools in the city were selected which promised to produce a sample of students differing widely in social class position as well as in intelligence. Cumulative records were examined for information as to age and nationality background. A rough estimate of social class position was made on the basis of family residence, using norms published for the Syracuse community (Willie, 1957). With this information, an approximate matching of subjects was accomplished for each of the three high schools.

A total of 104 subjects were originally tested. Nine of these were later excluded because of insufficient length of attendance in school, because of discrepancies in information or because of Negro racial background. One of a set of twins was randomly excluded. During testing, more complete information concerning social class position was obtained. Each subject completed a personal data sheet prior to the administration of other tests. If information from cumulative records differed, subjects were asked for clarification prior to the completion of testing. It was discovered that many subjects of high intelligence originally classified as Lower Class were instead of Middle or Upper Class status. After the final completion of I.S.C. ratings, the total number of subjects in the Superior group was 50, the total number in the Average group, 45. However, only 19 subjects of Superior Intelligence-Low Social Class status were identified, as compared to 31 of Superior Intelligence-High Social Class status. In comparison, it was relatively easy to identify an adequate number of subjects of Average intelligence, whether of High or Low Social Class status. Although the populations of the other two city high schools was thoroughly canvassed, it proved impossible to locate 25 subjects of Superior Intelligence and low social class status. Therefore, it was necessary to eliminate subjects from the other subgroups while maintaining proportional representation in terms of number of cases, sex, age, religion and nationality background. When the rejection of subjects involved the choice between two or more individuals, the principle of random selection was followed. Table 2 shows the number of Superior and Average boys and girls from each high school who were finally included in the study. The number selected from each high school was nearly identical, an important consideration because one school environment could be more conducive to good adjustment than another.

Description of Groups

Sex and Social Class Status

Information on sex and social class status is contained in Tables 3 and 4. Complete data concerning the sex, age, intelligence and social class characteristics of the subjects in the two main groups is found in the Appendix. Sex distributions were equal for the Superior and Average subjects; they were also equally distributed according to a gross differentiation into High and Low Social Class groups, as shown in Table 3. A more detailed analysis of I.S.C. scores for both groups is provided in Table 4. A rather marked difference will be observed in the Upper and Lower Middle Class ratings of the Superior and Average groups. The mean I.S.C. scores for the Superior and Average groups were 43.83 and 47.48, respectively, and the best characterization of each group, on the basis of mean scores, would be Lower Middle Class.

Intelligence

Comparative data on the intelligence of the Superior and Average groups appears in Table 5. Means, standard deviations and ranges of Total Mental Factors IQ's are shown in Column 1. The same data are reported in Columns 2 and 3 for Language and Non-Language Factors IQ's. Total Mental Factors IQ's were used as the basis for classifying subjects. One ninth-grade girl included in the Superior group (Subject 32 in Appendix) fell slightly below the criterion IQ of 124. It was necessary to include this subject in order to provide a sufficient number of Superior subjects of Lower-Class status. This girl, however, had a reported IQ of 131 on the Lorge-Thorndike Intelligence Test.

The *t*-ratio was employed to test for the significance of difference in the mean IQ's of the two groups. The level of significance for rejection of the hypothesis of no difference for the three sets of means is shown in Table 5. The variances for the two groups were homogeneous for Total Mental Factors and Language Factors IQ's (Snedecor F test for homogeneity of variance). However, the Superior subjects showed significantly greater variability in Non-Language Factor IQ's than the Average subjects.

Chronological Age

The mean age of the Superior group was 15 years, 10 months and the standard deviation nine months. The mean age of the Average group was 16 years, one month and the standard deviation nine months. The age range of the Superior group was 14 years, four months, to 17 years, five months, for the Average group, 14 years, five months to 17 years, 8 months. Mean ages of the two groups were therefore within three months of each other and the age ranges were nearly the same.

Nationality Background

Subjects were asked to indicate the nationality of both parents on the Personal Data sheet. In the case of mixed descent they were

TABLE 2

NUMBER OF SUPERIOR AND AVERAGE SUBJECTS FROM EACH HIGH SCHOOL

High School	Superior		Average	
	Boys	Girls	Boys	Girls
High School I	15	9	14	9
High School II	4	4	4	5
High School III	5	5	6	4
	24	18	24	18

TABLE 3

SEX AND SOCIAL CLASS STATUS OF SUPERIOR AND AVERAGE SUBJECTS

Group	N	Sex		Social Class Status			
				Lower Class		Higher Class	
		Boys	Girls	Boys	Girls	Boys	Girls
Superior	42	24	18	11	8	13	10
Average	42	24	18	11	8	13	10

TABLE 4

INDEX OF STATUS CHARACTERISTICS SCORES FOR THE SUPERIOR AND AVERAGE GROUPS

Range	Social Class Status	Group	
		Superior	Average
12 - 21	Upper Class	3	6
22 - 37	Upper Middle Class	12	3
38 - 51	Lower Middle Class	8	14
	Total	23	23
52 - 66	Upper Lower Class	17	16
67 - 84	Lower Lower Class	2	3
	Total	19	19

TABLE 5

STATUS OF THE SUPERIOR AND AVERAGE GROUPS ON CALIFORNIA TEST OF MENTAL MATURITY INTELLIGENCE QUOTIENTS

Group	(1) Total Mental Factors			(2) Language Factors			(3) Non-Language Factors		
	X	S.D.	Range	X	S.D.	Range	X	S.D.	Range
Superior	128.24***	3.81	120-139	130.79***	7.31	111-151	124.95***	9.09**	109-151
Average	100.57	4.52	91-109	99.62	7.29	83-112	101.36	6.01	85-112

** Significant at less than .01 level.
*** Significant at less than .001 level.

instructed to list all the national strains present. The question concerning nationality of parents was answered by 78 Superior subjects and 68 Average subjects. In tabulating the responses a weight of four points was given when only one nationality was mentioned, three points to each nationality when two national strains were mentioned (e.g. English-German), two points to each nationality when three were mentioned and one point to each nationality when four were mentioned. The points were then totaled by nationality and reduced to percentages for each group as shown in Table 6. The percentages are very similar for both groups. A comparison of the nationality background of the Superior group with that of the population in the Terman study (1925) shows a much larger proportion of subjects of Italian extraction (12.0 percent as compared to 1.4 percent in the Terman study).

TABLE 6

NATIONALITY BACKGROUND OF SUPERIOR AND AVERAGE SUBJECTS

	Superior	Average
	Per Cent of Total	Per Cent of Total
English	23.6	20.9
German	17.9	16.3
Italian	12.0	19.6
Scotch	8.4	3.6
Irish	8.4	14.0
French	4.9	6.5
Dutch	4.9	5.2
Russian	6.2	2.6
Polish	3.3	2.6
Ukranian	3.3	—
Austrian	1.9	2.6
Welch	1.4	0.6
Slovak	1.1	—
Armenian	2.2	—
Mohawk Indian	0.6	—
Roumanian	—	2.6
Greek	—	2.6
Total	100.1[a]	99.7

[a] Discrepancy in total percent due to rounding of numbers.

Religious Background

Table 7 contains the comparative data on the religious background of the families of the subjects in the Superior and Average groups. The number of subjects of each religious denomination is nearly equal.

TABLE 7

RELIGIOUS BACKGROUND OF SUPERIOR AND AVERAGE SUBJECTS

		Religious Background	Superior	Average
Parents	Same Religion	Protestant	22	21
		Roman Catholic	8	9
		Jewish	4	5
		Russian Orthodox	1	0
		Greek Orthodox	1	1
	Different Religions	Roman Catholic—Protestant	5	6
		Roman Catholic—Jewish	1	0
		Total	42	42

Other Characteristics of the Superior and Average Groups

Birthplace of subjects and their parents. Information on the birthplace of subjects and their parents is given in Table 8. All subjects were born in the United States except one in the Superior group. The proportion of native and foreign-born parents was almost identical for both groups.

Languages spoken in the home. The number of Superior and Average subjects coming from English and Bilingual-speaking homes was equal (see Table 9).

Educational status. In terms of grade placement at the time of the study, the number of Superior subjects in grades nine through 12 were as follows: four, 14, 21, three. The number of Average subjects in grades nine through 12 were: seven, 16, 19, zero.

School achievement. Results of the Iowa Test of Educational Development were available for 24 of the Superior subjects and 26 of the Average subjects. The test measures eight different areas of achievement: social studies background, natural science background, correctness of expression, quantitative thinking, reading-social sciences, reading-natural science, reading-literature, and general vocabulary. The mean percentile for composite scores for the Superior subjects was 90.21, for the Average subjects, the mean percentile was 54.46.

TABLE 8

BIRTHPLACE OF SUBJECTS OF SUPERIOR AND AVERAGE INTELLIGENCE AND BIRTHPLACE OF THEIR PARENTS

Birthplace	Superior	Average
Subjects		
United States	41	42
Ukraine	1	—
Fathers		
United States	35	36
Italy	3	2
Canada	—	2
Austria	1	1
Germany	1	—
Poland	—	1
England	1	—
Ukraine	1	—
Mothers		
United States	37	38
Germany	1	1
Canada	2	2
Ukraine	1	—
Italy	1	1

TABLE 9

LANGUAGES SPOKEN IN THE HOMES OF SUPERIOR AND AVERAGE SUBJECTS

Language Spoken	Superior	Average
English only	34	34
Bilingual[a]		
English-Italian	3	4
English-Greek	—	1
English-Hebrew	1	1
English-German	1	1
English-Armenian	1	—
English-Ukraine	1	—
English-Slovak	1	—
Italian-English	—	1
Total	42	42

[a] Language given first is the one most frequently spoken in the home.

PROCEDURES

Criteria of Personal and Social Adjustment

Twenty or thirty years ago psychology dealt primarily with the non-social aspects of personality. Today, there is an increasing interest in the relationship of the individual to his social milieu, and adjustment is more frequently evaluated in terms of the adequacy of interpersonal behavior. Adequacy of social relationships however is only one of the many facets of positive adjustment. A comprehensive definition should include some measure of inner psychological conflict as well. Six criteria of *inter*personal (social) and *intra*personal (personal) adjustment have been developed for the purposes of the present study. The rationale for these criteria are discussed briefly in the section which follows:

Independent-Dominant and Responsible-Cooperative Interpersonal Behavior

These two clusters of interpersonal traits were chosen because they were representative of the socially-approved characteristics most frequently found to be associated with individuals of superior intelligence. A high incidence of these traits has something in common with concepts of positive adjustment by Jahoda (1950) and Foote and Cottrell (1955). One of the three elements of mental health proposed by Jahoda was "active adjustment" or "positive striving," as distinct from indiscriminant adjustment through passive acceptance of environmental conditions. "Active adjustment" is similar to the concept of "interpersonal competence"' offered by Foote and Cottrell. The "competent" person is one who is capable of coping and growing, of dealing with a changing world, discovering new ends and means and integrating his goals with those of others. The six components of "interpersonal competence" are health, intelligence, empathy, autonomy, judgment, creativity and the capacity for love. Jahoda acknowledged that "active adjustment" is based upon an explicit set of values. The use of autonomous and affiliative interpersonal traits as measures of positive adjustment in this study was founded upon the assumption that they represent predominant values of adaptive behavior in our culture.

Moderation of Interpersonal Behavior

Leary (1956) asserts that an extreme or inappropriate amount of any kind of interpersonal trait is maladjustive. Thus, while independent-dominant interpersonal behavior is healthy within limits, extreme "conceit" and "egotism" are regarded as unhealthy. Whereas responsibility and cooperation are healthy interpersonal reactions when moderate or flexible, extreme hyper-responsibility and over-conventional behavior are regarded as unhealthy. This dimension of moderation versus extremity of interpersonal behavior was employed as a second criteria of positive adjustment. Moderation in any particular trait was considered adjustive and extremity maladjustive (See Table 10).

Unity or Integration of Personality

According to Jahoda (1950), "unity of personality, or the maintenance of a stable, internal integration" was a prerequisite of positive adjustment. Allport (1956) maintained that normal people are dominated by "preferred patterns of self-actualization" and that these patterns of self-actualization are consistent at both the manifest and latent levels of personality. According to Allport, harmony of expression at the overt and latent levels of personality is characteristic of positive adjustment. The relative correspondence of self-descriptions and motives as expressed in fantasy therefore was employed as an index of unity or stability of personality in this study.

Self-Acceptance

Another criterion of adjustment relevant to the inner conflicts and dissatisfactions of the individual is the degree of self-acceptance. Rogers (1951) maintained that a marked descrepancy between one's "perceived self" and "ideal self" is indicative of personality disturbance. Roberts (1952) found that a low rating of self-esteem was highly correlated with poor adjustment. Progress in therapy was found to be associated with increasing similarity between the patient's self-concept and ideal self concept (Norman, 1953). Other research lends credence to self-acceptance as a definition of positive adjustment and it therefore was employed as the fifth criterion in the present study.

Accuracy of Self-Perception

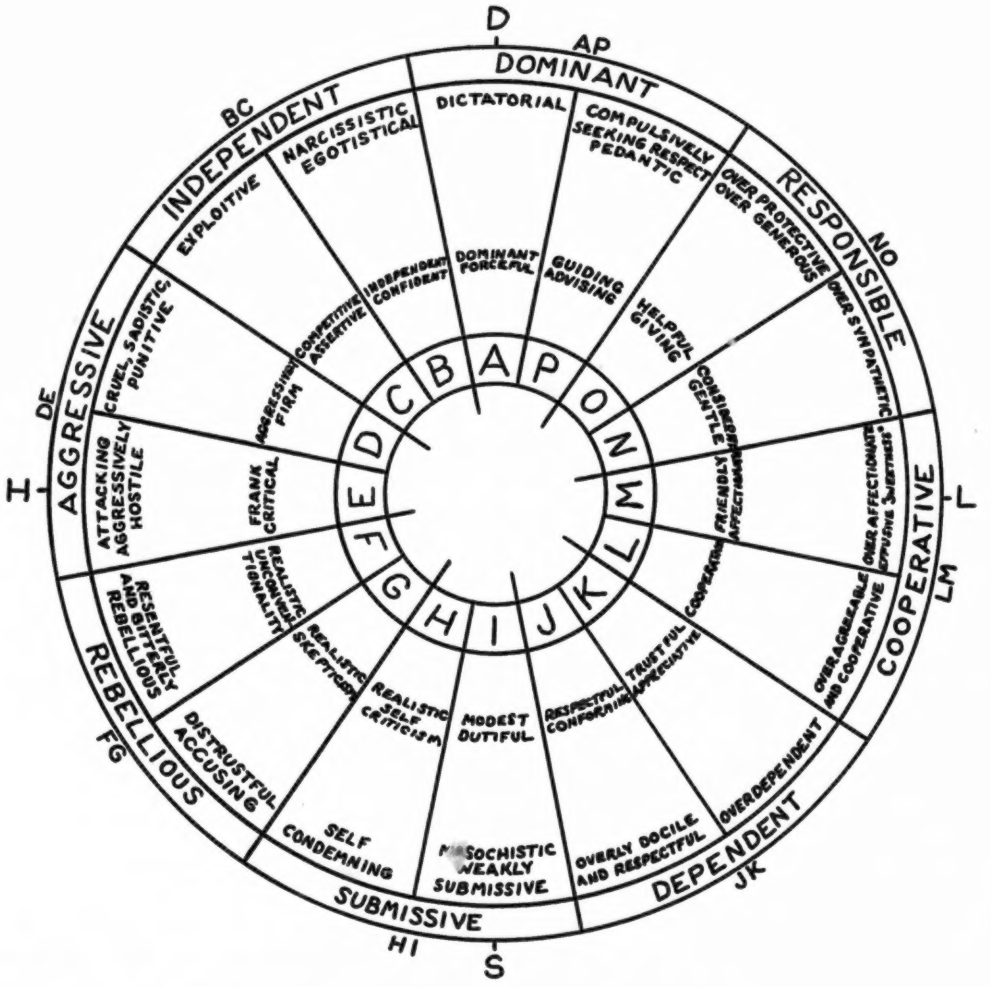
Realistic perception of oneself was another criterion of mental health proposed by Jahoda (1955). Accurate perception of self is "free from need distortion" and tallies with the reports of others. The relative correspondence between the subject's perception of self and how others perceived him was employed as another partial index of adjustment in the present study.

Procedures for the Assessment of Maladjustment

In planning the study an attempt was made to develop assessment procedures which utilized a systematic set of personality variables, measured the six criteria of adjustment and were suitable for use with adolescents.

General Method

The study was conducted within the framework of the system of interpersonal diagnosis developed by the Kaiser Foundation research and clinical group (Leary, 1956). This system describes personality in terms of 16 ways in which a person may interact with another. An illustration of this classification of interpersonal behavior and its adjustive and maladjustive aspects is given in Figure 1. The 16 interpersonal variables form a circular continuum in which adjacent variables are positively correlated and those situated 180 degrees apart are negatively correlated. A varying degree of intensity is represented on the circular grid for each of


D
AP
DOMINANT
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DE
INDEPENDENT
BC
DICTATORIAL
COMPULSIVELY SEEKING RESPECT PEDANTIC
OVER PROTECTIVE OVER GENEROUS
OVER SYMPATHETIC
OVER AFFECTIONATE EFFUSIVE "SWEETNESS"
OVERAGREEABLE AND COOPERATIVE
OVERDEPENDENT
OVERLY DOCILE AND RESPECTFUL
MASOCHISTIC WEAKLY SUBMISSIVE
SELF CONDEMNING
DISTRUSTFUL ACCUSING
RESENTFUL AND BITTERLY REBELLIOUS
ATTACKING AGGRESSIVELY HOSTILE
CRUEL, SADISTIC, PUNITIVE
EXPLOITIVE
NARCISSISTIC EGOTISTICAL
DOMINANT FORCEFUL
GUIDING ADVISING
HELPFUL GIVING
CONSIDERATE GENTLE
FRIENDLY AFFECTIONATE
COOPERATIVE
TRUSTFUL APPRECIATIVE
RESPECTFUL CONFORMING
MODEST DUTIFUL
REALISTIC SELF CRITICISM
REALISTIC SKEPTICISM
REALISTIC UNCONVEN-TIONALITY
FRANK CRITICAL
AGGRESSIVE FIRM
COMPETITIVE ASSERTIVE
INDEPENDENT CONFIDENT
A
P
O
N
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L
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FIG. 1.—CLASSIFICATION OF INTERPERSONAL BEHAVIOR INTO SIXTEEN CATEGORIES.

(Modified from M. B. Freedman, *et al.*, "The Interpersonal Dimension of Personality," *Journal of Personality*, XX (1951), 143-161, and T. Leary, *Multilevel Measurement of Interpersonal Behavior: A Manual for the Use of the Interpersonal System* (Berkeley, California: Psychological Consultation Service, 1957).

the 16 traits. Descriptive terms near the center of the circle indicate moderate or adjustive degrees of the trait; descriptive terms in the outer ring of the circle represent extreme or maladjustive aspects of the trait. Adjectives situated in the periphery of the circle describe the interpersonal behavior of each octant of the circle. Adjacent traits are combined into these eight separate categories. Another illustration of the classification of interpersonal traits along the moderate-to-extreme dimension is given in Table 10.

The classification is based on two polar coordinates. The vertical axis represents the dimension of *power,* with Dominant (D) behavior located at the top and Submissive (S) behavior located at the bottom of the circle (see Figure 1). The horizontal axis represents the dimension of *affiliation,* with Hostile (H) interpersonal behavior located at the left and Affection or Love (L) at the right of the circle. LaForge and Suczek (1955) and Naboisek (1953) demonstrated that the circular continuum of 16 traits is satisfactorily congruent with empirical fact. While the units around the circle are not completely equidistant, the arrangement appears to be ordered correctly. Rausch, Dittman and Taylor (1959) also found evidence of the validity of the personality constructs employed in this classification system.

Assessment Procedures

The multi-level diagnostic process outlined by Leary (1956) involves four primary levels of measurement. Level I, the Level of Public Communication, consists of the overt interpersonal behavior of the individual as rated by others. Level II, the Level of Conscious Communication, is the subject's perception of himself, not what he does or privately wishes, but how he sees himself as behaving in interpersonal situations. Level III, the Level of Private Perception, consists of the fantasy productions of the subject about himself and others. Level V, the Level of Values, consists of the subject's statements of "how he should be" or "how he would like to be." These four methods of assessment were incorporated in the present study. Two instruments were employed, the Interpersonal Check List and the Thematic Apperception Test, both scored on the basis of the system of interpersonal variables described by Leary. A summary of the subject's interpersonal behavior (Level I) was obtained through the ratings of teachers and classmates on the Interpersonal Check List. The subject's view of his own interpersonal behavior (Level II) was obtained by having him describe himself on the Interpersonal Check List. Thematic Apperception Test material was employed as a measure of fantasy (Level III) and the Interpersonal Check List for ratings of ideal-self by each subject (Level V).

TABLE 10

ILLUSTRATIVE CLASSIFICATION OF ADJUSTIVE AND MALADJUSTIVE INTERPERSONAL BEHAVIOR.[1]

Code	Adjustive Diagnostic Category		Adjustive Interpersonal Behavior	Maladjustive Diagnostic Category		Maladjustive Interpersonal Behavior
AP	Dominant Personality	A	Forceful	Autocratic Personality	A	Managing, power-oriented
		P	Eliciting Respect		P	Compulsively seeking prestige
BC	Independent Personality	B	Independent	Narcissistic Personality	B	Egotistical
		C	Competitive		C	Exploitive
DE	Aggressive Personality	D	Firm	Sadistic Personality	D	Cruel, Punitive
		E	Frank, critical		E	Attacking, Hostile
FG	Rebellious Personality	F	Realistic Unconventionality	Distrustful Personality	F	Passively Resistant, Bitter, Resentful
		G	Realistic Skepticism		G	Accusing, Suspicious
HI	Self-Effacing Personality	H	Realistic Self-Criticism	Masochistic Personality	H	Self-Punishing, Self-Condemning
		I	Modest, Dutiful		I	Overly Passive and Submissive
JK	Docile Personality	J	Respectful	Dependent Personality	J	Overly docile
		K	Trustful		K	Overly dependent
LM	Cooperative Personality	L	Agreeable	Overconventional Personality	L	Naive, Over-Compromising
		M	Friendly		M	Effusively "sweet"
NO	Responsible Personality	N	Considerate	Hypernormal Personality	N	Oversympathetic
		O	Generous, Helpful		O	Over-protective

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[1] Adapted from Timothy Leary, *Interpersonal Diagnosis of Personality* (New York: Ronald Press, 1956), p. 233.

Definitions

The six criteria of adjustment were defined operationally as follows:

Independent-dominant and responsible-cooperative interpersonal behavior. Manifestation of autonomous and affilative interpersonal traits was established by means of self-ratings and ratings of teachers and classmates of the subjects on the Interpersonal Adjective Check List. A higher frequency of these traits was regarded as evidence of superior adjustment. It was considered important to obtain observations on interpersonal behavior from the point of view of the individual and in the context of both teacher and peer relationships, as well. Contrasting pictures of personality are often obtained through self-assessment and the assessment by others. Research by Bonney (1943) and Havighurst and Taba (1949) indicates that above the elementary school level the correlations between self-descriptive data and ratings by others tend to be moderate. Also, teacher and classmate ratings might be expected to reflect contrasting sets of values or standards.

Moderation of interpersonal behavior. Each subject was judged in terms of the moderation or extremity of his interpersonal behavior. Extreme rigidity in any one type of interpersonal trait was assumed to denote poor adjustment. The Interpersonal Adjective Check List provided a method for obtaining self-ratings and ratings by others on this dimension of adjustment.

Unity or integration of personality. Integration of personality was defined as the correspondence between manifest and latent expressions of the individual. The degree of correspondence between self-descriptions of interpersonal behavior on the Interpersonal Check List and interpersonal themes on the Thematic Apperception Test was used as a measure of this aspect of adjustment. A significantly larger discrepancy was assumed to reflect a significantly greater degree of inner conflict and less stability of personality. Allport (1956) and Getzels (1951) provide some theoretical and empirical support for this procedure. Allport believed that neurotic conditions could best be diagnosed by the discovery of disagreement between direct and projective methods of testing. He maintained that it was not the well-integrated subject, aware of his motivations, who revealed himself in projective testing. It was rather the neurotic personality, whose facade belied the repressed fears and hostilities within. Such a subject would be caught off guard by projective devices. According to Allport, significant discrepancies between the "conscious report" and the "projective material" would be expected with the neurotic person. Getzels utilized two forms of a sentence completion test, one couched in the first person and the other in the third person (e.g. "When they asked Frank to be in charge he . . ."; "When they asked me to be in charge I . . .") for the comparison of two groups of veterans, one diagnosed well-adjusted and the other psychoneurotic. The well-adjusted men gave essentially the same type of responses on both the first and third person completion tests.

The neurotics, on the other hand, varied their responses on the two tests significantly more often than the well-adjusted subjects. Getzels concluded that such discrepancies between overt and covert levels of measurement were correlates of pathology and indicated the presence of *intra*personal stress.

Self-acceptance. The relative amount of discrepancy between self-ratings and ideal self ratings on the Interpersonal Check List was employed as a measure of self-acceptance. Closer correspondence of self-perceptions and ideal-self perceptions was assumed to reflect relatively better adjustment.

Accuracy of self-perception. The degree of correspondence between self-ratings and the ratings of teachers and classmates on the Interpersonal Check List was used as a measure of realistic self-perception. The larger the discrepancy between self-perceptions and the perceptions of others, the larger the degree of self-deception and the poorer the adjustment of the individual was assumed to be. A composite of teacher and classmate ratings was utilized on the supposition that this would reflect a more generalized picture of how the individual's interpersonal behavior was viewed by others.

These conceptual and operational definitions of adjustment were not designed to be comprehensive. Other research definitions of psychological health might have been employed, but these were chosen because they appeared to lend themselves best to objective measurement. At least, they provide a broad base for the assessment of personal and social adjustment.

The Instruments

Interpersonal adjective check list (ICL). There is a definite advantage of using a single instrument to gather data systematically and in comparable form at more than one of the levels of measurement. The Interpersonal Check List, developed by LaForge and Suczek (1955) accomplishes this objective. The Check List was employed to assess interpersonal behavior on the basis of teacher and classmate perceptions and self and ideal-self perceptions. The development of the ICL is described in detail by LaForge and Suczek (1955). Validity of the present form is based primarily on four careful revisions and empirical checks. A priori selection of the words on the check list by a group of five psychologists was followed by an analysis of the way in which these words were actually used by a variety of subject groups. Test-retest reliability correlations are available on 77 subjects who were retested after an interval of two weeks. Correlation coefficients averaged .73 for reliability of the 16 interpersonal variables. The present form of the ICL (Form IV) is composed of 128 items, eight for each of the 16 interpersonal variables. An explicit intensity dimension is built into the check list in order to obtain approximately comparable scores for the 16 categories. The eight items for each of the 16 variables are ordered along a four-point scale: one item reflects a "mild or necessary amount of the trait;" three items refer to a "moderate or appropriate amount of the trait;" three items reflect a "marked or inappropriate amount of the trait;" one item expresses an "extreme, inappropriate amount of the trait."

Thematic Apperception Test (TAT). The instrument used for measuring interpersonal motives as expressed in fantasy was the Thematic Apperception Test. Ten of the cards from the third revision of the test (Murray, 1943) were administered and the interpersonal motives associated with the main character of the stories scored. Cards 1, 2, 3BM, 4, 6BM, 6GF, 7BM, 8BM, 12M, and 18BM were administered to male subjects. Cards 3GF, 7GF, 9GF, and 18GF were substituted for their counterparts when testing female subjects. A manual is available which describes procedures for scoring and coding interpersonal themes on the TAT (Leary, 1957). No attempt is made to score the moderation or intensity of any of the interpersonal themes.

Holt (1951) observed that the TAT is not a test in the same sense as an intelligence scale, and consequently, the usual canons of reliability and validity need to be applied with considerable qualification. The problem of reliability must be restated for the TAT: "To what extent do the stories reflect transient states of the person and to what extent are they determined by more slowly-changing dynamic and structural features." A study by Coleman (1947) provides some indirect evidence of reliability, in showing that the TAT stories of children soon after they had seen a movie were not significantly influenced by its content. Tompkins (1947) reported on the repeat-reliability of the TAT as scored by the Murray need-press system. Repeat reliability was found to be as high as .8 or .9 depending upon the lapse of time between administrations and the fluidity of the subject's personality. Another important aspect of reliability is the extent of agreement among scorers of the same TAT protocols. Leary (1956) outlined two methods of assessing the reliability of scoring on the TAT: (1) The percentage of agreement between two independent unit ratings of individual stories. (2) The percentage of agreement in assigning a summary interpersonal diagnosis to the story. The first method involves the comparison of unit ratings (A, P, etc.) by the two judges. Ratings which fall in the same octant, as in the case of scores A and P, would represent perfect agreement. The second method (to be discussed in more detail in the next section) involves the comparison of summary interpersonal diagnoses by the two judges. The interpersonal diagnosis is a vector sum of all the interpersonal ratings assigned to a subject by each judge. This summary point is located in one of the octants on the circular grid. Agreement between independent summary diagnoses occurs when the raters place the subject in the same or an adjacent octant. Disagreement occurs when the summary diagnoses are more than one octant apart. Obviously, reliability coefficients will be higher with this gross method of scoring, than with unit ratings. In the present study, reliability of scoring was ascertained by both methods, since both unit ratings and summary diagnoses were used in the analysis of data. TAT interpersonal themes were scored by the investigator using the system outlined by Leary (1957). Reliability of scoring was checked by another psychologist, who scored 11 randomly selected protocols (13 percent of the total). The percentage of agreement between the two independent scorers on unit ratings was 78 percent. The percentage of agreement on interpersonal diagnoses was 91 percent. Scoring reliability was considered adequate for the purposes of this study.

Scoring Procedures

In assigning scores to responses on the Interpersonal Check List, the unit assumed to be invariant was an event from a definite set of events—the subject's or ratee's selection or rejection of any word from the list—rather than the standard deviation computed from a sample under certain scaling assumptions. Thus, the intensity and the total number of words are viewed as independent variables. The advantage of this procedure is that raw scores (number of words checked in a given category by the subject or ratee) can be directly compared, and the model for statistical inference need not involve untestable scaling assumptions (LaForge & Suczek, 1955). Scoring of the ICL simply involved the counting of the number of words checked by the subject or ratee in any given category (AP, BC, etc.). On the Thematic Apperception test, however, intelligence level itself could be a factor in determining the total number of interpersonal themes in each scoring category. Therefore, the proportion of responses in each category to the total number of responses given by the subject was used as a score on the TAT.

To test several of the main hypotheses, the circular continuum was divided into quadrants by combining octant frequencies. Thus, AP plus BC were combined to represent the score for Independent-Dominant interpersonal behavior, HI plus JK for Dependent-Submissive behavior, LM plus NO for Responsible-Cooperative behavior and DE plus FG for Rebellious-Aggressive behavior. An extreme or maladjustive intensity on any particular trait was defined as more than eight words checked in any of the interpersonal categories on the Interpersonal Check List. The test is devised so that eight adjectives in each of the octants of the circle describe the moderate aspects of the trait and the remaining eight describe an inappropriate amount of the trait. For the composite teacher-classmate ratings, an average of more than eight words per category was the criterion for extreme intensity.

Three of the criteria for adjustment in the present study dealt with discrepancies between levels of measurement. The assumptions and the procedures for deriving numerical indices of discrepancies between levels of measurement are summarized by Leary (1956):

> The circle is considered to be a two-dimensional array in ordinary Euclidian space. Scores on the 16 variables are obtained for each subject by numerical procedures; then, by combining these scores into octants, a set of eight vectors or points in this two-dimensional

space are obtained. The center of gravity or vector mean of these points represents the measure of central tendency. Since the circle is a two-dimensional surface, a vector is represented numerically by the magnitude of its components in two arbitrarily selected directions. The vertical (Dominance) and horizontal (Affection) axes were used as reference directions. The point which summarizes the interpersonal behavior of the subject is thus located by the intersection of the vertical and horizontal weights. The components of the vector sum in these two directions were given the designation *Dom* (Dominance) and *Lov* (Affection). Conventional trigonometric and analytic formulas were used to relate the 16 variables and to find the vector sum. The formulas for the two components of the vector sum are:

1. $\text{Dom}={}^{16}\text{Ri} \quad \sin \theta i \quad \text{and } \Sigma i=1$
2. $\text{Lov}={}^{16}\text{Ri} \quad \cos \theta i \quad \text{and } \Sigma i=1$

where $R=$ the score in the "i"th category
where $\theta i=$ the angle made by moving in counter-clockwise direction from L to the "i"th category (from LM when octant scores are used).

When octant scores are used and 0.7 is taken as the value of sin 45 degrees, the following formulas are used to derive the numerical indices:

$\text{Dom}=\text{AP}-\text{HI}+.7(\text{NO}+\text{BC}-\text{FG}-\text{JK})$
$\text{Lov}=\text{LM}-\text{DE}+.7(\text{NO}-\text{BC}-\text{FG}+\text{JK})$

where $\text{AP}=$ the score in the octant AP, etc.

The summary points for each level of measurement are obtained in this fashion, then the linear distance between the summary points for two levels of measurement is the index of the discrepancy between them. Leary (1957) described a "short-cut" technique for measuring the linear distance between points on the circle. Code numbers are employed to represent the vector sums. By means of mathematical procedures, a table of weights has been constructed which directly expresses the amount of discrepancy between any pair of code numerals. There are 14 possible discrepancies, ranging at unequal intervals from 0 to 114. The cutting point or modal score which separates a high and low discrepancy is designated by the number 44. This code number represents a discrepancy between extreme scores for adjacent octants of the circle. If the discrepancy is no more than one octant, then it is considered that no conflict exists between levels of measurement. More than 44 represents a conflict of more than one octant and denotes a high discrepancy.

To use these discrepancy indices, one must rely on norms and conversion tables published for 800 randomly selected psychiatric clinic admission subjects (Leary, 1957). Norms for the ICL and the TAT were established by taking the central tendency or mean of the interpersonal behavior of the population as the center of the circle. Thus, the vector sum of scores from any level of measurement (ICL—self rating, ideal self rating, composite teacher-classmate rating, TAT, etc.) may be converted into standard scores which describe the individual's position in reference to these norms. In the present study, the norms for the 800 clinic patients are used only for the purpose of exploring variability between levels of measurement. Since the objective is to investigate the *relative* difference between Superior and Average adolescents, reference to these norms for a measure of discrepancy seems justifiable. However, any other application would be inappropriate. If the standard scores were used as a direct method of assessing the adjustment of adolescents, a rather distorted picture would be obtained. Subjects would be judged in reference to the norms for a "maladjusted" population. Using norms for psychiatric patients would hardly be appropriate in studying differences between groups of adolescents. A disadvantage of using the summary point technique is the fact that extreme fluctuations or ambivalences around the circle are obscured. For example, a subject might express extreme dominance in the presence of extreme passivity. However, the resulting summary point would locate closer to the center of the circle and the dynamic quality of the extreme ambivalence would be lost. Therefore, raw scores from the ICL and TAT are utilized for the major part of the statistical analysis rather than the summary interpersonal diagnoses.

The Administration of Tests

Testing of subjects. Testing of the two adolescent groups was completed during two successive class periods. Ten to 12 were tested in a group and the number of Superior and Average subjects on each occasion was approximately equal. Each individual was requested to complete in this order the following tests or questionnaires: Personal Data sheet, a self-rating on the Interpersonal Check List, a rating of Ideal-self on the ICL, and the writing of 10 themes for TAT cards. Subjects were seated about three feet apart facing the Examiner. At the beginning a brief introductory statement was made:

> *You people are among a large number of individuals throughout the city who have been chosen to participate in a research project. We are seeing students from several of the high schools in the city. Your names have been chosen at random, or by chance, and the fact that you have been chosen has nothing to do with your school standing. What you do here will not become a part of school records; it will be used for research purposes only. We will be working together for two class periods following which you will have the opportunity to ask any questions you wish about the tests.*

After this introduction, subjects were given permission to leave if they did not care to participate, a requirement of the Board of Education. Fortunately, none took advantage of this option. Specific test instructions were then given as follows:

> *Personal Data Sheet:* First, please look at the paper in front of you. This form asks for some specific information about yourself. Let me remind you that this information will be held in strict confidence and will be used only for research purposes. Once you have finished today, your names will be clipped off these papers and you will become identified by number only. Please answer all these questions as carefully and as accurately as possible." (Instructions were read item by item and the questions of individual students answered at their desk. The papers were then collected and checked for details prior to the completion of testing.)
>
> *Self-Rating, Interpersonal Check List:* Now each of you has before you a booklet with your name written at the top. Below your name

you will find a list of words or phrases numbered 1 to 128. You are to indicate if these words describe yourself. Read each item quickly, and if you consider this description to be generally true of yourself, circle the number preceding the item. (EXAMPLE GIVEN) If the item does not describe you, do not circle the number before the item. Your first idea or impression is generally the best so work quickly. Don't be concerned about what seem to be contradictions and don't try to be too exact. Start now, finish both pages and when you are through place your pencil on top of the paper. If anyone has a question, raise your hand and I'll help you." (These forms were collected as soon as the subject finished and inspected to see if both pages had been completed)

Ideal-Self Rating, Interpersonal Check List: Now you have the same kind of form before you with your name at the top. This time you are supposed to encircle the items according to 'How you would like to be,' or 'How you think you should be.' If the item describes how you would like to be circle the number before it. If you would rather not be like this do not circle it. (EXAMPLE GIVEN) Start now, and finish both pages. When finished, place your pencil on top of the paper." (Forms were collected as soon as the subject finished.)

Thematic Apperception Test: (Subjects were presented with a booklet of lined paper with their names written at the top. Ten TAT cards were placed in order face down on the desk in front of of them). "This test consists of ten cards with pictures on them. What I want you to do is to write a short story about each picture as we come to it. There are no right or wrong answers to the pictures. It's just a matter of using your imagination to tell a story about what is going on in the picture. Try to tell what the situation is, what is going on. Then, try to imagine what might have brought the situation about. Also, include something about what the people are feeling about the situation or about each other. Then give your story a definite ending. To help you remember, the instructions are written here on the blackboard: 1. What is happening? What brought it about? 2. What are the characters thinking or feeling about each other or about the situation? 3. How does the story end? We aren't interested in the stories from a literary point of view. In other words, don't worry about your spelling, punctuation, or be too fussy about your choice of words. You should write each story as quickly as you can, just as the thoughts come to you. You will have five minutes for each story. (Instructions were repeated each time for the first few cards presented. After four minutes on each card, the Examiner said, "You should now start bringing your story to a close. You have one minute left for this picture.)[2]

Teacher ratings. Teacher and peer ratings were both obtained following the group testing of subjects. Class schedules of each subject was first checked to find what homeroom and classroom teachers they were assigned to. Then, teachers were contacted individually to request their cooperation and to explain the purpose of the project. The ICL forms were left with the teachers to complete and to return to the school counselor. Instructions for rating subjects were written on the face sheet of the ICL form.

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[2] Lindzay and Heinnemann (1955) investigated the differences between TAT protocols obtained from group and individual administrations and between protocols obtained under the imposition of a time limit. Over-all differences were small between group written and individual oral administrations of the test and between protocols obtained with and without the time restriction.

The programs of students included four to six different courses in each of which they spent about 40 minutes daily with one teacher. They also had a brief contact with a homeroom teacher and in some cases were known to the high school counselor. A maximum number of six teachers had contact with the subjects and the degree of teacher familiarity with individuals was expected to vary. The ICL forms which were distributed included a five-point scale ranging from no acquaintance to intimate acquaintance with each subject. Teacher were asked to indicate on this scale how well they knew the subject. In some cases, all teachers might know the subject in question; in others, only one or two might be sufficiently familiar with the subject to rate him. The number of teacher ratings finally obtained for the subjects in the two groups is shown in Table 11. Sixty-eight teachers and guidance personnel cooperated in the rating of subjects. In all 259 teacher ratings were obtained. The proportion of teachers who returned the ICL rating forms was high. Out of the total number of teachers (74) from whom ratings were requested, 68, or 92 percent returned the forms. Teacher ratings varied fortuitously according to whether subjects were in their particular homeroom or class. Therefore, some teachers rated only Superior subjects; others rated only Average subjects. Inspection of the returns however, indicated that for the majority of teachers, evaluations were equally distributed between the two groups.

TABLE 11

NUMBER OF TEACHER RATINGS PER SUBJECT AND THE MEAN NUMBER OF RATINGS PER SUBJECT FOR THE SUPERIOR AND AVERAGE GROUPS

Group	Number of Ratings							$\overline{X}$	Total Number of Teacher Ratings
	0	1	2	3	4	5	6		
Superior	—	2	15	11	11	2	1	2.98	125
Average	—	5	10	5	13	5	1	2.71	114

Classmate ratings. A minimum of two classmate ratings were sought for each subject. The individuals selected as ratees were classmates who had been elected to some class office, such as president, vice-president, secretary, treasurer, or as class representative to one of the student organizations in the school. The number of students asked for ratings varied from four to eight depending upon the number of class offices. A total of 32 classmates were finally contacted to serve as ratees. Instructions for rating subjects were included on the face sheet of the ICL form and peer judges were also asked to indicate on the five-point scale how well they knew the students they were rating. Each ratee was contacted individually to ask for his cooperation, to explain the purposes of the project and to stress the importance of confidentiality. Each judge was given an envelope with check list forms for each of their classmates in the two subject groups under study and were asked to complete the ratings and return the envelope to the school counselor. None refused to cooperate. However, when the ratee did not know a subject, no rating could be obtained, and there was considerable variation in the number of ratings per subject. The number of peer ratings finally obtained per subject is shown in Table 12. A total of 227 classmate ratings were obtained. However, three of the Superior and four of the Average subjects were unknown to any of the judges and these subjects had to be excluded in that part of the analysis of findings relevant to classmate perceptions of their behavior.

TABLE 12

NUMBER OF CLASSMATE RATINGS PER SUBJECT AND THE MEAN NUMBER OF RATINGS PER SUBJECT FOR THE SUPERIOR AND AVERAGE GROUPS

Group	Number of Ratings								Total Number of Classmate Ratings
	0	1	2	3	4	5	6	$\overline{X}$	
Superior	3	5	10	5	13	5	1	2.93	123
Average	4	8	12	5	8	5	0	2.48	104

Statistical Analyses

Chi square was the major test of statistical significance used in the study. The median of the combined group scores in most cases served as the basis for dichotomizing. The .05 level of significance was adopted as the criterion for rejection of the null hypothesis. One-tailed tests of significance were used when the hypothesis stated the direction of the difference. Two-tailed tests were employed for evaluating empirical findings.

RESULTS

Independent-Dominant and Responsible-Cooperative Interpersonal Behavior

The first four research hypotheses concern the relative prevalence among superior and average adolescents of the following interpersonal traits: independence-dominance, responsibility-cooperation and their counterparts, the negatively-valued traits of dependency-submission and rebellion-aggression. It will be recalled that Hollingworth found adolescents of high intelligence to be more dominant and self-sufficient than adolescents of average intelligence. Terman also reported the following social and volitional traits to be more characteristic of the intellectually gifted: will power and perseverance, self-confidence, desire to excel and leadership. In addition, he obtained higher ratings for the intellectually gifted on the following social and moral traits: conscientiousness, truthfulness, popularity, sympathy, generosity, tenderness and unselfishness. In previous research, individuals of average intelligence, more frequently than the gifted, were found to possess traits of submissiveness, deference, dependency, conformity, and hostility. Therefore,

Hypothesis 1: There will be a higher incidence of independent-dominant traits among Superior adolescents than those of Average intelligence.

Hypothesis 2: There will be a higher incidence of responsible-cooperative traits among Superior adolescents than those of Average intelligence.

Hypothesis 3: There will be a higher incidence of dependent-submissive traits among Average adolescents than those of Superior intelligence.

Hypothesis 4: There will be a higher incidence of rebellious-aggressive traits among Average adolescents than those of Superior intelligence.

Data relevant to these hypotheses were obtained from three sources: the perceptions of teachers, the perceptions of classmates and the perceptions of the subjects themselves on the Interpersonal Adjective Check List.

Teachers' Perceptions

Teachers' ratings of each subject on the ICL were averaged and scores combined for the four cluster of traits: Independent-Dominant, Responsible-Cooperative, Dependent-Submissive, and Aggressive-Rebellious. The median of the scores for both groups was used as the basis for dichotomizing. Table 13 shows the number of subjects falling above or below the median for the four interpersonal categories. Since the median was an integer, several scores could equal the median. The dichotomy consisted of those scores which exceeded the median versus those not exceeding it. A significantly larger number of Superior subjects fell above the median for the combined groups in the Independent-Dominant category. However, the converse was not true. No significant differences existed between sub-

Table 13

Differences Between Superior and Average Subjects in Interpersonal Behavior: Teacher Ratings, Classmate Ratings and Self Ratings on the Interpersonal Adjective Check List

Trait	Group	Above Median	Below Median	x^2
Independent-dominant (AP-BC)				
Teacher Ratings	Superior	29 (17.97)[a]	6 (17.03)[a]	26.39**
	Average	9 (20.03)	30 (18.97)	
Classmate Ratings	Superior	20 (16.19)	15 (18.81)	3.49*
	Average	11 (14.81)	21 (17.19)	
Self Ratings	Superior	27 (18.84)	7 (15.16)	14.65**
	Average	14 (22.16)	26 (14.84)	
Aggressive-rebellious (DE-FG)				
Teacher Ratings	Superior	24 (19.24)	13 (17.76)	4.85*
	Average	15 (19.76)	23 (18.24)	
Classmate Ratings	Superior	19 (18.00)	17 (18.00)	0.24
	Average	15 (16.00)	17 (16.00)	
Self Ratings	Superior	20 (18.74)	16 (17.26)	0.34
	Average	18 (19.26)	19 (17.74)	
Dependent-submissive (HI-JK)				
Teacher Ratings	Superior	17 (18.89)	17 (15.11)	0.81
	Average	23 (21.11)	15 (16.89)	
Classmate Ratings	Superior	17 (17.75)	18 (17.25)	0.18
	Average	18 (17.25)	16 (16.75)	
Self Ratings	Superior	17 (17.48)	19 (18.52)	0.04
	Average	17 (16.52)	17 (17.48)	
Responsible-cooperative (LM-NO)				
Teacher Ratings	Superior	20 (18.73)	15 (16.27)	0.36
	Average	18 (19.27)	18 (16.73)	
Classmate Ratings	Superior	20 (18.24)	15 (16.76)	0.70
	Average	17 (18.76)	19 (17.24)	
Self Ratings	Superior	17 (21.55)	22 (17.45)	4.41*
	Average	25 (20.45)	12 (16.55)	

[a] Expected frequencies based on marginal distributions are in parentheses.

* $P < .05$

** $P < .01$

jects of high and average intelligence in terms of teachers' perceptions of Dependent-Submissive interpersonal behavior. The two groups also failed to differ significantly in Responsible-Cooperative traits. The findings relevant to Aggressive-Rebellious interpersonal behavior were in direct contradiction to Hypothesis four. Highly intelligence subjects were perceived by teachers to display these traits more frequently than subjects of Average intelligence. Hypothesis one was supported; Hypotheses two, three, and four were not, on the basis of teachers' ratings.

Classmates Perceptions

Table 13 also summarizes the viewpoint of classmates concerning the differences between Superior and Average subjects on the interpersonal traits relevant to Hypotheses one through four. The method of scoring and analysis followed the same pattern as for teachers' ratings. On the basis of classmates' perceptions, significantly more Superior subjects were considered to possess Independent-Dominant traits than Average subjects. However, on the other cluster of traits, no significant differences were attributed to the two groups. Hypothesis one was again substantiated, whereas Hypotheses two, three, and four were not supported by classmates' perceptions.

Self-Perceptions

Table 13 further presents the data on differences in the way Superior and Average subjects perceived their own interpersonal behavior. As in the case of teacher and peer ratings, Superior subjects rated themselves more frequently as Dominant and Independent. Hypothesis one was supported by all three sources of evidence. However, differences in Dependent-Submissive and Aggressive Rebellious traits were not statistically significant and Hypotheses three and four were not supported. Findings relevant to Responsible-Cooperative behavior were in direct contradiction to Hypothesis two. It was predicted that Superior subjects would more frequently consider themselves cooperative and responsible. However a significantly larger number of Average subjects fell above the median for this cluster of traits.

Discussion of the Results

A higher incidence of the socially-valued traits of Independence-Dominance among the intellectually gifted was amply substantiated by teacher, classmate and self ratings. However, the two groups were not perceived to differ significantly in the frequency of the negatively-valued traits of Dependency-Submission. These findings are not contradictory. Although the two clusters of traits are negatively correlated, checking an item in one category does not preclude the possibility of checking an item in the order. Thus, dominant and submissive interpersonal behavior may co-exist for the individual subject. The results simply indicate that the Superior group holds a higher position along the Dominance-Submission axis of the interpersonal circle. This finding is consistent with reports by Terman and others that the intellectually gifted more frequently possess such character traits as dominance, self-sufficiency, independence, and will-power.

Contrary to predictions, the intellectually gifted were not found to display a significantly higher incidence of the socially-valued traits of Responsibility-Cooperation, or a significantly lower incidence of the negatively-valued traits, Aggression-Rebellion. As a matter of fact, teachers considered the Superior adolescents to be significantly *more* aggressive and rebellious than those of average intelligence. Also, the average adolescents perceived themselves to be significantly *more* responsible and cooperative than the Superior group. On the basis of these two sources of evidence (teacher and self-perceptions), one might conclude that Average adolescents are more socially responsible, cooperative, friendly and generous and less rebellious, hostile and aggressive in social interactions than adolescents who are intellectually gifted.

The inconsistency in findings should not be passed over lightly. Classmate and self-ratings of Aggressive-Rebellious traits as well as teacher and classmate ratings of Responsible-Cooperative traits failed to differ significantly. The lack of consistency in the perception of interpersonal behavior could reflect one or both of the following factors, rather than fundamental differences between the two groups.

Variable interpersonal behavior among subject-groups in different environmental settings. Teachers deal with students in a more restricted social situation than is common in the social interactions of peer groups. Classmates very likely have the opportunity for more spontaneous and less structured relationships with their peers than is characteristic in teacher-pupil relationships. Redl and Wineman (1957) have observed that environments differ in the kinds of behavior they sanction, positively encourage or inhibit. The classroom environment may have less of an inhibiting effect on the intellectually-gifted individual. He may feel more secure in expressing antagonistic ideas, disagreeing, challenging, or criticizing the thoughts of teachers or others in the classroom because of his intellectual competence. In a wider and less formal social interaction with members of the peer group, however, the individual of average intelligence may feel equally as free to show critical and rebellious attitudes. The nature of the environmental setting thus could influence interpersonal behavior and the perceptions of teachers and classmates.

A difference in the way teachers, the adolescent peer group and the subjects themselves perceive interpersonal behavior. The possibility exists that teachers and adolescents perceive aggressive and rebellious behavior differently. Teachers, as well as other adults, may react sensitively to this type of behavior whereas adolescents may react less intensely to aggressive or unconventional activity among their peers. Differences in self-perceptions among the two subject groups could also be a crucial factor. Average subjects more frequently perceived themselves to be responsible and cooperative. In their ideal-self concept they also placed a significantly greater emphasis on the desirability of Responsible-Cooperative traits (See Table 22). The fact that they checked more items in the Responsible-Cooperative category as descriptive of themselves could signify a tendency of Average subjects to defensively claim traits which they feel are socially-approved. Rather than indicating an actual difference in overt behavior, these findings suggest that the Average group were more threatened by the public perception of their behavior, have a greater need to conform to social norms and to place a higher value on conventional behavior.

The inconsistency of ratings points up the danger of basing research conclusions upon a sole source of evidence, whether it is a rating by a teacher, by a member of a peer group or the subject himself. Consistency of the three ratings is probably the best standard for determining whether or not the individual subject possesses a greater or lesser amount of a particular interpersonal trait. This consistency might be assumed to reflect a greater generalization of the behavior, independent of specific social situations and the personal needs of the rater. Therefore, the data seem to warrant the conclusion that there is a higher incidence of independent-dominant interpersonal traits among the intellectually gifted than the adolescent of average intelligence. No definite conclusions are admissible concerning the relative incidence of Responsible-Cooperative interpersonal traits in the two subject groups. The fact that Superior subjects were perceived by teachers as more aggressive and rebellious than Average subjects could be interpreted as a true difference between the groups, as a result of situational pressure or a result of differences in the perceptual orientation and values of teachers and classmates. The fact that Average adolescents rated themselves as more responsible and cooperative could represent a greater need on their part to be conventional and to conform to social pressures rather than an actual difference in their overt interpersonal behavior.

Moderation of Interpersonal Behavior

One of the fundamental concepts of the Kaiser Foundation Research Group (Leary, 1956) was the existence of normal and pathological behavior along the same continuum of measurement. Moderation in any type of interpersonal behavior was considered adjustive and a rigid intensity, maladjustive. The intellectually gifted frequently have been reported to be "better adjusted" on the basis of the presence of certain socially-valued character traits. However, on this dimension of rigidity or extremity of traits, it was predicted that the differences between intellectually gifted and average adolescents would fail to reach significance.

Hypothesis five: **There will be no significant differences between Superior and Average adolescents in terms of moderation versus intensity of interpersonal behavior.**

Data relevant to this hypothesis were also obtained from three sources: teacher, classmate and self-perceptions.

Teachers' Perceptions

The number of items checked by teachers in each of the eight interpersonal categories on the Interpersonal Check List were counted and averaged for each individual subject. Average frequencies of more than eight in any of the categories signified an extreme or inappropriate amount of the trait. When a subject was given a score of more than eight in more than one category, the central tendency of the extreme ratings determined the type of interpersonal maladjustment. The first row of Table 14 shows the total number of subjects in each group judged maladjusted and the type of maladjustment on the basis of extremity of interpersonal behavior. Code letters are used to indicate the interpersonal category (AP—Dominant; BC—Independent, etc.) Chi square analysis with Yates correction for continuity revealed no significant differences between the groups in incidence of maladjustment according to this criterion.

TABLE 14

INCIDENCE OF MALADJUSTMENT ON THE BASIS OF TEACHERS' RATINGS OF EXTREME INTERPERSONAL BEHAVIOR

Group	Interpersonal Trait								Total	x^2
	AP	BC	DE	FG	HI	JK	LM	NO		
Superior (N=42)	—	—	—	—	—	—	2	—	2	1.62
Average (N=42)	1	—	—	—	1	1	1	—	4	
Superior (N=42)	3	1	—	—	—	—	—	3	7	0.10
Average (N=42)	1	—	—	—	1	1	1	1	5	

For the majority of subjects, several teacher ratings were available. Often, however, the extreme ratings of some teachers were counterbalanced by a very small and non-discriminating number of items checked by other teachers. In this way extremely high ratings by as many as two or three teachers could be obscured by the total absence of any kind of rating in that category by other teachers. Therefore, the data were reanalyzed and a teacher's rating was excluded in the averaging of scores if less than 16 of the 128 items on the ICL had been checked. This arbitrary cutting point was selected since one might reasonably expect teachers to check at least two items for each subject in each category. The retabulation of the data is shown in the second row of Table 14. With these somewhat larger frequencies, seven Superior and five Average adolescents were judged to show extreme or inappropriate amounts of certain traits. Again, however, the differences between groups were not statistically significant, and Hypothesis five was supported by teacher ratings.

Inspection of Table 14 suggests that although no differences existed in the incidence of maladjustment according to the intensity dimension, there might be a significant difference in the type of maladjustment shown by the two groups. Separate traits were combined into two clusters: Dominant-Affectionate (BC, AP, LM, NO) and Submissive-Aggressive (JK, HI, FG, DE). There were seven superior subjects in the former cluster and none in the latter, whereas the distribution for the Average group was three and two respectively. Chi square analysis with Yates correction however did not reveal a statistically significant difference between the two groups in terms of type of interpersonal maladjustment.

Classmates' Perception

Ratings of extreme interpersonal behavior by classmates were derived in the same fashion as for teachers and the results are shown in Table 15. Differences between the two groups in incidence of maladjustment clearly were not significant. The total number of subjects rated maladjusted on the basis of extremity of interpersonal behavior was almost identical for both groups, in support of Hypothesis five. As with teachers' ratings it is of interest to examine the types of interpersonal traits which were rated extreme. Of the 10 Superior subjects judged by their peers to show extreme (maladjusted) interpersonal behavior, nine were considered overly independent, competitive, responsible or cooperative (BC, AP, LM, NO). Of the 11 Average subjects judged to be maladjusted on the basis of extreme reactivity, nine were overly submissive, dependent, rebellious or aggressive (JK, HI, FG, DE). Chi square with Yates correction indicated a statistically significant difference in the type of interpersonal maladjustment of intellectually gifted and average subjects from the viewpoint of their peers (Chi square of 8.13, P less than .01).

TABLE 15

INCIDENCE OF MALADJUSTMENT ON THE BASIS OF CLASSMATES' RATINGS OF EXTREME INTERPERSONAL BEHAVIOR

Group	Interpersonal Trait								Total	x^2
	AP	BC	DE	FG	HI	JK	LM	NO		
Superior (N=38)	—	3	—	—	1	—	5	1	10	0.10
Average (N=38)	—	1	1	1	5	2	—	1	11	

Self-Perceptions

As with teacher and peer ratings, a frequency of more than eight items checked in any of the eight interpersonal categories was considered to indicate an extreme or inappropriate amount of the trait. When a subject checked more than eight words in more than one category, the central tendency of these categories was taken as the trait to be scored. Table 16 shows the number of Superior and Average subjects rating themselves as extreme in various types of interpersonal behavior. The number of subjects in each group who rated their behavior as extreme was almost identical. This criterion of maladjustment again failed to discriminate between groups and Hypothesis five was supported. In terms of the type of interpersonal maladjustment, differences between the two groups were not significant. Twelve of the subjects in both groups considered themselves to display extreme dominant-affectionate traits (BC, AP, LM, NO). Six Superior and five Average subjects considered themselves to be extremely submissive and/or aggressive (JK, HI, FG, DE).

TABLE 16

INCIDENCE OF MALADJUSTMENT ON THE BASIS OF SELF-RATINGS OF EXTREME INTERPERSONAL BEHAVIOR

Group	Interpersonal Trait								Total	x^2
	AP	BC	DE	FG	HI	JK	LM	NO		
Superior (N=42).........	2	3	4	2	—	—	5	2	18	0.09
Average (N=42).........	2	—	1	—	2	2	9	1	17	

Discussion of the Results

Hypothesis five was substantiated by teacher, classmate and self-ratings. No significant differences were found between the two groups in terms of moderation versus extremity of interpersonal traits from any of the sources of evidence.

Although no significant differences were found between groups at each of the levels of measurement, the importance of carefully weighing the source of data is again apparent when one considers the varying number of subjects identified as maladjusted by teachers, classmates and the subjects themselves. Teachers would consider only six of the total group of 82 maladjusted whereas if one relied exclusively on either classmate or self-perceptions, 21 and 38, respectively, would be classified as maladjusted according to this method of assessment.

With this criterion the ratee is not asked to make any direct interpretation whether the subject is adjusted or maladjusted. Value judgments as to which particular words represented excessive amounts of a trait were made independently by the psychologists who developed the Interpersonal Check List. It was evident that the values of the adolescent reference group about desirable amounts of interpersonal traits differed widely from the values of the test constructors. Both the Superior and Average subjects placed an extreme emphasis on dominant and affiliative traits when asked to check those items describing how they would "like to be." About two-thirds of the items checked by the combined groups for Ideal-Self fell in the dominant and affiliative half of the interpersonal circle. Superior and Average subjects checked a mean number of 7.6 and 9.5 items respectively in the LM category as descriptive of ideal self. In order to obtain such high mean scores it was necessary for them to frequently check such items as "will confide in anyone," "wants everyone's love," "agrees with everyone," "friendly all the time." According to the rationale of the ICL, these items represent extreme friendly-cooperative interpersonal traits and the person checking this many items would be classified as "a naive, sweet, over-conventional personality type" (Leary, 1956). This criterion of maladjustment therefore must be considered independent of the values of "adjustment" of this sub-cultural group of adolescents.

Unity or Integration of Personality

The relative size of the discrepancy existing between conscious descriptions of the self and interpersonal motives as expressed in the actions, feelings and thoughts of the main characters in TAT stories was the operational definition of unity or internal integration of personality.

Hypothesis six: When consistency of interpersonal behavior between Self Ratings (ICL) and expressions of interpersonal motives in fantasy (Hero themes, TAT) is taken as a criterion of good adjustment, no significant differences will exist between Superior and Average subjects. Superior subjects will experience *intra*personal conflict just as frequently as subjects of Average intelligence.

The technique for obtaining an index of over-all discrepancy between levels of measurement was explained in Chapter III. The technique involves the computation of raw score vector sums (Dom-Lov indices) for each subject's ICL, self-ratings and TAT hero themes. Standard score equivalents for these indices are derived from published norms (Leary, 1957). An interpersonal diagnosis for the ICL and TAT is then obtained for each individual by plotting the intersection points of the standard score vector sums directly on the circular grid. The summary point will fall in one of the categories of interpersonal behavior (AP, BC, etc.) and this represents the interpersonal diagnosis of the individual for the particular level of measurement. The linear distance between these summary points for the two levels of measurement represents the measure of discrepancy for each individual. From published tables a numerical index of the amount of discrepancy between these two interpersonal diagnoses is obtained.

Numerical indices, showing the amount of discrepancy between self ratings (ICL) and TAT hero themes are tabulated in Table 17 for individuals in the Superior and Average groups. Number 44 in this table represents a modal point where interpersonal diagnoses at the manifest (ICL) and latent (TAT) levels differ no more than one adjacent octant from each other on the interpersonal grid. Thus, when the Interpersonal Diagnosis for self-ratings and for TAT hero themes are AP and BC, respectively, the subject's discrepancy score would be 44. A score of zero represents identical Interpersonal Diagnoses at both levels and a score of 114 represents the greatest possible linear discrepancy on the circular grid. Chi square was used to test for significant differences in the number of subjects falling above and below the modal point (44) for the Superior and Average groups, and the analysis is shown in Table 18. The relationship between amount of discrepancy between manifest and latent levels of expression and level of intelligence was not significant. The differences between the two groups could reasonably be attributed to random fluctuation and Hypothesis six was supported.

TABLE 17

AMOUNT OF DISCREPANCY BETWEEN INTERPERSONAL DIAGNOSES DERIVED FROM INTERPERSONAL ADJECTIVE CHECK LIST, SELF RATINGS AND THEMATIC APPERCEPTION TEST, HERO THEMES

Group	Low Discrepancy Indices				Modal Point	High Discrepancy Indices								
	0	23	26	41	44	48	62	66	68	81	84	91	105	114
Superior	4	6	1	5	6	1	—	9	1	2	3	1	3	—
Average	5	2	5	4	—	1	1	7	3	2	8	3	—	1

TABLE 18

CHI SQUARE ANALYSIS OF THE RELATIONSHIP OF INTELLIGENCE LEVEL AND AMOUNT OF DISCREPANCY BETWEEN SELF RATINGS (INTERPERSONAL ADJECTIVE CHECK LIST) AND THEMATIC APPERCEPTION TEST, HERO THEMES

Group	High Discrepancy	Low Discrepancy	x^2
Superior	20 (21.33)[a]	16 (14.77)[a]	0.32
Average	26 (24.77)	16 (17.23)	

[a] Expected frequency on basis of marginal distribution in parentheses.

Although discrepancies between manifest and latent levels of expression were the main concern of the present investigation it is of interest to examine differences between Superior and Average subjects at the level of fantasy expression itself. Superior subjects gave a larger total number of interpersonal themes, 861 compared to 753 for the Average. The total number of themes is a function to some extent of intellectual or creative power. To allow for this difference between groups, the number of themes for individual subjects in each category was converted to a percentage of their total number of themes. Medians of the combined groups' percentages were found for each of the clusters of traits, and Chi square analysis was employed to test for the significance of differences in the number of subjects falling above or below the median. Findings are summarized in Table 19. A significantly larger number of Average subjects fell above the median in the HI-JK category. Average subjects expressed a significantly larger proportion of themes of submission and dependency in interpersonal relationships than Superior subjects. None of the differences between groups were significant in other categories of interpersonal motives.

TABLE 19

DIFFERENCES BETWEEN SUPERIOR AND AVERAGE SUBJECTS IN THE EXPRESSION OF INTERPERSONAL THEMES ON THE THEMATIC APPERCEPTION TEST

Code	Interpersonal Themes	Group	Above Median	Below Median	x^2
AP-BC	Power-Success, Exploitation-Narcissism	Superior	24 (20.5)[a]	17 (20.5)[a]	2.40
		Average	17 (20.5)	24 (20.5)	
DE-FG	Punitive and other forms of pure hostility, Passive Resistance Deprivation	Superior	17 (17.76)	20 (19.24)	0.11
		Average	19 (18.24)	19 (20.24)	
HI-JK	Masochism-Weakness, Conformity-Trust	Superior	16 (20.73)	23 (18.27)	4.54*
		Average	26 (21.27)	14 (18.73)	
LM-NO	Collaboration, Pure Love, Tenderness, Generosity	Superior	19 (20.48)	20 (18.52)	0.44
		Average	23 (21.52)	18 (20.52)	

[a] Expected values based on marginal distributions in parentheses.
* $P < .05$

A large number of interpersonal themes dealing with masochism and weakness (HI) was expressed by both groups of adolescents at the fantasy level. Of the total number of themes given by Superior subjects, 25 percent dealt with masochistic or weak interpersonal actions on the part of the main character in TAT stories. Of the total number given by Average subjects, 24 percent dealt with themes in this category. These percentages far exceeded the average percentages of other interpersonal themes for both groups.

Discussion of the Results

No significant differences were found between the two groups on an overall measure of discrepancy between manifest and latent interpersonal behavior. Therefore, it seems safe to conclude on the basis of this particular sample and the particular method of assessment, that Superior subjects do not differ significantly in terms of integration of personality or degree of intrapersonal conflict. The fact that both adolescent groups gave a proportionately large number of TAT themes in the HI category (weakness, masochism) is an interesting sidelight. Whether this represents a general characteristic of adolescents at this age level or whether it is simply a function of the particular TAT cards used to elicit fantasies would be impossible to say. Many of the TAT cards used portray situations of grief, despair and depression; thus, themes of weakness and masochism might be elicited out of proportion to the actual motivational states of the subjects tested. The findings could reflect the nature of the stimulus material rather than the fantasy preoccupations of adolescents. However, this would be an interesting question to explore longitudinally and with a larger and perhaps more representative selection of stimulus pictures.

Self-Acceptance

In the present study, the correspondence between self and ideal-self concepts was employed as a measure of the relative degree of "self-acceptance." It was assumed that the greater the discrepancy between self ratings and ideal-self ratings on the ICL, the greater the inner conflict and feelings of personal inadequacy.

Hypothesis seven: When self-acceptance or the discrepancy between self-concepts and ideal-self concepts on the ICL is taken as a criterion of good adjustment, no significant differences will exist between Superior and Average adolescents.

The technique of statistical analysis was described in Chapter III. First, raw score vector sums were computed for self ratings and ideal self ratings on the ICL. These indices were then converted to standard score equivalents on the basis of the normative sample, using the same conversion tables for both ideal self and self ratings. Interpersonal diagnoses for each level of measurement were found and the numerical indices which represent the linear distance between two interpersonal diagnoses obtained from the tables published by

Leary (1957). Table 20 contains the tabulation of the number of subjects in the two groups obtaining low and high discrepancies between self and ideal-self ratings. Chi square analysis of differences in the number of subjects falling above and below the modal point for the two groups is shown in Table 21. Differences between Superior and Average subjects in the overall discrepancy between the two levels of measurement were not significant.

Table 20

Amount of Discrepancy Between Interpersonal Diagnoses Derived From Interpersonal Adjective Check List Self Ratings and Ideal-Self Ratings

Group	Low Discrepancy Indices				Modal Point	High Discrepancy Indices								
	0	23	26	41	44	48	62	66	68	81	84	91	105	114
Superior	8	6	3	5	7	—	1	4	—	4	2	1	1	—
Average	5	8	—	12	2	4	—	5	—	2	3	1	—	—

Table 21

CHI Square Analysis of the Relationship of Intelligence Level and Amount of Discrepancy Between Self and Ideal-Self Ratings on the Interpersonal Adjective Check List

Group	High Discrepancy	Low Discrepancy	x^2
Superior	13 (13.07)[a]	22 (21.93)[a]	0.11
Average	15 (14.93)	25 (25.07)	

[a] Expected frequency on basis of marginal totals in parentheses.

Differences between the two groups in respect to ideal-self on the four clusters of interpersonal traits are shown in Table 22. The median test and chi square were employed in the statistical analysis. A significantly larger number of Average subjects fell above the median in the LM-NO cluster indicating that they placed a higher value on the desirability of Responsible-Cooperative interpersonal traits than subjects of superior intelligence. Differences in other idealized interpersonal traits were non-significant.

TABLE 22

DIFFERENCES BETWEEN SUPERIOR AND AVERAGE SUBJECTS IN CONCEPTS OF IDEAL INTERPERSONAL TRAITS

Code	Interpersonal Trait	Group	Above Median	Below Median	x^2
AP-BC	Independent-Dominant	Superior	18 (16.94)[a]	20 (21.06)[a]	0.25
		Average	15 (16.06)	21 (19.94)	
DE-FG	Aggressive-Rebellious	Superior	21 (20.43)	15 (15.57)	0.08
		Average	21 (21.57)	17 (16.43)	
HI-JK	Dependent-Submissive	Superior	17 (18.92)	18 (16.08)	0.80
		Average	23 (21.08)	16 (17.92)	
LM-NO	Responsible-Cooperative	Superior	14 (19.99)	27 (21.01)	7.18**
		Average	25 (19.01)	14 (19.99)	

[a] Expected values based on marginal distributions in parentheses.
** $P < .01$

Both adolescent groups placed a strong emphasis upon the desirability of independent-dominant and responsible-cooperative traits. About two-thirds of the items checked by the combined groups for Ideal-Self fell in the dominant and affiliative half of the interpersonal circle. When percentages of items checked in each of the interpersonal clusters were computed for the combined groups, it was found that 34 percent were in the responsible-cooperative category, 31.6 percent in the independent-dominant category, 19.4 percent in the Dependent-Submissive category and 15 percent in the Aggressive-Rebellious category.

Discussion of the Results

Discrepancies between self-concepts and ideal-self concepts failed to differ significantly for the intellectually gifted and average subjects. On the basis of the type of assessment used, the groups appeared to be equally satisfied with the adequacy of their interpersonal behavior and Hypothesis seven was supported. In view of recent speculations concerning the "emotional quietism" and excessive drives toward conformity and conventionality among adolescents (Brodbeck, 1957), it would be of interest to pursue further the question whether or not their values of interpersonal behavior are unique.

Accuracy of Self-Perception

Accuracy of self-perception was determined by the relative degree of correspondence between self-description of interpersonal behavior by the subjects on the ICL and descriptions of their behavior by teachers and classmates on the ICL. By virtue of their higher intelligence it was expected that the Superior subjects would show a keener awareness of the "real" quality or effect of their interpersonal actions.

Hypothesis eight: Superior subjects will manifest greater accuracy of self-perception than subjects of Average intelligence. There will be less discrepancy between their self-ratings on the ICL and the composite teacher-classmate view of their behavior on the ICL.

The following steps were involved in deriving a composite teacher-classmate rating. Since there was an unequal number of teachers and classmates rating individual subjects, the average teacher and classmate score for each subject on each of the interpersonal categories was obtained. These average scores were then entered into the formula for the computation of raw score vector sums, and the vector sum was converted to standard score equivalents from the published norms for the ICL (Leary, 1957). Standard scores were used to locate the point on the circular grid which represented the Interpersonal Diagnosis of the individual as perceived jointly by teachers and classmates. Finally, the amount of discrepancy between the Interpersonal Diagnoses based on self-ratings and ratings by others was established in the same way as with other discrepancy measures.

Discrepancies between self-perceptions and teacher-classmate perceptions of interpersonal behavior for the two groups are shown in Table 23 and the chi square test for association of IQ level and size of discrepancy in Table 24. The obtained values for chi square were not statistically significant.

TABLE 23

AMOUNT OF DISCREPANCY BETWEEN INTERPERSONAL DIAGNOSES DERIVED FROM SELF RATINGS AND COMPOSITE TEACHER-CLASSMATE RATINGS ON THE INTERPERSONAL ADJECTIVE CHECK LIST

Group	Low Discrepancy Indices				Modal Point	High Discrepancy Indices								
	0	23	26	41	44	48	62	66	68	81	84	91	105	114
Superior	5	9	2	9	3	5	1	4	1	—	—	—	—	—
Average	4	2	8	10	1	4	3	2	3	—	1	—	—	—

TABLE 24

CHI SQUARE ANALYSIS OF THE RELATIONSHIP OF INTELLIGENCE LEVEL AND AMOUNT OF DISCREPANCY BETWEEN INTERPERSONAL DIAGNOSES BASED ON SELF RATINGS AND COMPOSITE TEACHER-CLASSMATE RATINGS ON THE INTERPERSONL ADJECTIVE CHECK LIST

Group	High Discrepancy	Low Discrepancy	x^2
Superior	11 (11.84)[a]	25 (24.16)[a]	0.18
Average	13 (12.16)	24 (24.84)	

[a] Expected frequency on basis of marginal totals in parentheses.

Discussion of the Results

The differences between the two subject groups in the amount of discrepancy between self-descriptions and composite teacher-classmate descriptions of interpersonal behavior were not significant, and Hypothesis eight was not supported. Despite their superior cognitive ability, the intellectually gifted failed to manifest greater accuracy of self-perception than the average subjects.

SUMMARY AND DISCUSSION

The purpose of the study reported in this monograph was to examine similarities and differences in the personal and social adjustment of intellectually gifted and average adolescents. Inordinate stress was found in the professional literature upon the superior adjustment of the intellectually gifted. Previous research did not appear to warrant such an extreme position because: (a) only slight differences between intellectually gifted and average subjects had actually been reported, (b) research populations had frequently differed in social class status, nationality or religious background as well as in intelligence, (c) research criteria of positive adjustment were often narrowly conceived in terms of the degree of conformity to socially-approved behavior. In most cases conclusions had been based on a single test of personality.

A comparison was made of 42 intellectually gifted adolescents and 42 adolescents of average intelligence on six different criteria of personal and social adjustment. Both groups were closely equated on such important variables as age, sex, social class status and religious and nationality background. The Thematic Apperception Test (TAT) and the Interpersonal Check List (ICL) were administered to all subjects. The latter provided data on self-concepts and ideal self-concepts, as well as teacher and classmate evaluations of the interpersonal behavior of subjects. Six criteria of positive adjustment were employed. A higher incidence of *Independent-Dominant* and *Responsible-Cooperative Interpersonal Traits,* as perceived by teachers, classmates, and subjects themselves, represented one definition of superior adjustment. This criterion was assumed to reflect adaptation to the predominant values for social behavior in our culture, and it was predicted that the intellectually gifted would obtain significantly higher ratings than subjects of average intelligence on these two traits.

Moderation of Interpersonal Behavior, also assessed by means of ratings by teachers, classmates, and subjects themselves on the ICL, was adopted as a criterion relatively independent of social values of adjustment. Two criteria, *Integration of Personality* and *Self-Acceptance,* represented attempts to obtain information relevant to the degree of inner conflict and self-dissatisfaction. The former was measured by the relative correspondence of the self-descriptions of subjects on the ICL and interpersonal motives expressed on the TAT. The latter was measured by the relative correspondence of self-descriptions and ideal self-concepts of subjects on the ICL. Superior adolescents were not expected to differ significantly from Average adolescents on the three criteria. The sixth definition of positive adjustment, *Accuracy of Self Perception,* was assessed by the relative correspondence of self-descriptions by subjects and the composite teacher-classmate description of subjects on the ICL. It was predicted that intellectually gifted adolescents would more accurately perceive their own interpersonal behavior since this quality was more likely to be a function of cognitive ability.

The only remarkable distinction found was a significantly higher prevalence of Independent-Dominant interpersonal traits among the intellectually gifted. All sources of evidence—teacher, classmate and self-perception of subjects—consistently supported the conclusion that the gifted more frequently display dominant, forceful, independent and competitive types of behavior in their social interaction with others.

The two groups were not perceived by teachers or classmates to differ significantly in respect to Responsible-Cooperative interpersonal behavior, the trait-cluster which included friendliness, generosity, cooperation and assumption of responsibility for the welfare of others. Instead, teachers perceived the gifted as more aggressive and rebellious—traits negatively correlated with responsibility and cooperation. Subjects of average intelligence more often than the gifted perceived themselves as responsible and cooperative. Average subjects also placed a significantly higher value on Responsible-Cooperative interpersonal behavior when asked for their concept of ideal-self. Consistency at all three levels of assessment (teacher, classmate and self-ratings) was deemed necessary to conclude that one group manifested an interpersonal trait more frequently than the other. Such a consistency was more likely to reflect a broader generalization of the trait, independent of specific situational pressures or the unique values or perceptions of teachers and the adolescent peer group. Therefore, this standard of positive adjustment failed to differentiate between gifted and average subjects. However, the findings did suggest a stronger tendency on the part of adolescents of average intelligence to strive toward conventional and socially-conforming interpersonal behavior.

There were no significant differences between gifted and average subjects on the four other criteria of personal and social adjustment: Moderation of Interpersonal Behavior, Integration of Personality, Self-Acceptance, and Accuracy of Self-Perception. The two groups were similar in respect to criteria of adjustment which were independent of popular social standards for "good conduct" and relevant to the inner conflicts and dissatisfactions and "reality testing" of the individual.

Therefore, when intellectually gifted and average adolescents are closely equated on other important variables besides intellect which influence adjustment, it must be granted that differences in their positive adjustment are few and of questionable import. The highly intelligent adolescent might be expected to display greater autonomy and dominance in social relationships but in respect to other aspects of positive adjustment, few differences should be anticipated. The interpersonal behavior of the gifted was not regarded by teachers or classmates as more socially responsible or cooperative. They experienced inner conflicts and ambivalences to the same extent as adolescents of average intelligence. They were equally as prone to feelings of personal inadequacy and self-dissatisfaction, and they were not any more sensitive to the realistic nature of their behavior in social situations.

The findings indicate how hazardous and misleading are facile generalizations about the personal and social adjustment of individuals differentiated on the basis of intellect alone. There appears to be no inevitable association between High IQ and positive adjustment. Social class, age, nationality and religious differences are operative as well as intelligence in determining how an individual achieves an integrated personality and adapts to his social milieu. Although Terman, Hollingworth and others provided a real service in demonstrating that the intellectually gifted are *not less* well-adjusted than other individuals in the general population, it is perhaps equally as important that professional spokesmen do not place unqualified stress on their superiority in adjustment. Educators and others responsible for the learning and guidance of the intellectually gifted should never assume a transcedent superiority on their part in adjustment potential. Inner personality conflicts and problems in interpersonal relationships are equally as pressing for the gifted as for the adolescent of average intelligence.

Problems of Generalizing about the Intellectually Gifted

A provocative question must be considered prior to generalization from these findings: Do independent and dominant interpersonal traits simply exist concomitantly with high intelligence test performance or is there a cause and effect relationship between the two? An underlying but unstated assumption of the present study was that cognitive ability represented the causative factor. One might just as reasonably maintain that individuals who have developed an efficient independent-competitive-dominant pattern of psychological adjustment are as a consequence able to achieve a high score on tests of mental ability. Sontag and Baker (1957) reported that "passive-dependent" personality patterns led to decreasing levels of performance with age on the Stanford-Binet. On the other hand, "aggressive, self-reassuring, mastery" patterns led to progressively advanced intellectual performance. Rapaport and Schafer (1945) hypothesized that intelligence develops in childhood as a function of the ego and involves the delay or inhibition of impulse gratification. Recent experimental studies (Spivack, 1961) have demonstrated the affinity of intelligence test performance and the control functions of the ego. Independent-dominant interpersonal traits, positively correlated with high intelligence, could also be regarded as a function or consequence of the strong ego, rather than merely the product of innate cognitive ability.

It is difficult to draw conclusions about cause and effect relationships between IQ and other aspects of personality because of their complex interplay. Intellectual functioning is intimately related to personality dynamics and the ego defense mechanisms of the individual. The factorial composition of intelligence at different age levels is not positively known, and findings in relation to intelligence at one age level may not be typical at another. In view of these difficulties, one would question the wisdom in the future of attempting to conduct research and generalizing in reference to individuals who have been identified on the basis of the IQ variable alone.

We are most concerned today with the problems of identifying the personal qualities and life circumstances which lead to optimum adjustment and utilization by the individual of his creative resources. Identification of the creative or productive individual by several criteria and analysis of the relationship of these attributes to mental test performance and other significant variables would be a more meaningful approach to research in this area. Future research could also more profitably operate within another theoretical framework, where intelligence is considered a part of total personality functioning. The transfer of some of the concepts of "ego psychology" to educational research and practice is long over-due. At the very least, it would behoove those of us who are interested in the practical problems of nomenclature and classification of children for instructional purposes to re-examine our concepts about "giftedness" and search for more sophisticated techniques of identification.

Problems in the Assessment of Positive Adjustment

The meaningfulness of any conclusions drawn from this study rest to a large extent upon the validity of the criteria of adjustment employed and the methods for their assessment. Attempts to extend and refine methodology in this area still appear to be in a nascent stage. Although the need for multiple criteria of positive adjustment rather than a single unitary definition has begun to gain recognition (Smith, 1961), consensus regarding the particular array of criteria which are most valid has not been reached. A number of recent proposals have been made concerning the main attributes of mental health or positive adjustment. Those related to the criteria employed in the present study are outlined in Table 25. Other concepts such as "self-actualization" (Jahoda, 1958) and "ego-extension" (Allport, 1960) had no counterpart. Future research must contend with the problem of developing more adequate and more inclusive criteria of positive adjustment.

Once a decision is reached concerning broad criteria for positive adjustment, the more exacting task is faced of developing valid assessment procedures. There were several shortcomings in the present study in respect to operational definitions and methods of measurement. The simple dimension, incidence of independent-dominant interpersonal behavior, for example, was a much less complex and dynamic aspect of personality than the concept of "autonomy." Foote and Cottrell (1955) defined autonomy as a clarity of self-concept, a stable set of internal standards, self-direction, self-confidence, maintenance of self-respect and the capacity to recognize real threats to the self and to mobilize realistic defense against them. Maslow (1945) described the autonomous person as a "self-contained" individual, able to withstand stress and dependent upon his own resources rather than extrinsic things for his main satisfactions. Riesman (1950) viewed the autonomous individual as one who is capable of

TABLE 25

PARALLELS BETWEEN CRITERIA OF ADJUSTMENT EMPLOYED IN THE PRESENT STUDY AND OTHER CONCEPTS OF MENTAL HEALTH

Criteria of Present Study	*Other Criteria*
Independent-Dominant Interpersonal Behavior	Autonomy (Jahoda, 1955, Reisman, 1950, Foote and Cottrell, 1955) Self-Containment (Maslow, 1954)
Responsible-Cooperative Interpersonal Behavior	Warm and deep relations to others; Compassionate regard for all creatures (Allport, 1960)
Integration of Personality	Unity and Integration of Personality (Jahoda, 1955); Unifying philosophy of life (Allport, 1960)
Self-Acceptance	Attitudes toward Self (Jahoda, 1955) Self-Objectification (Allport, 1960)
Accuracy of Self-Perception	Perception of Reality (Jahoda, 1955) Realistic coping skills, abilities and perceptions (Allport, 1960)
Moderation in Interpersonal Behavior	No corollary

conforming to the behavioral norms of his society but who remains free to choose whether to conform or not.

These concepts of autonomy encompass two elements: (a) Overt autonomous behavior, which would include independent interpersonal actions. (b) A strong inner control or regulation of behavior. A more adequate definition of "autonomy" would include a measure of the more dynamic qualities of inner resourcefulness, capacity for self-regulation, ability to withstand social pressures and resistance to suggestibility—qualities similar in many respects to the concept of the "strong ego syndrome" (Alper, 1957).

Other methods of assessment barely touched the surface of the particular aspect of positive adjustment which they were designed to measure. Realistic perception of one's own interpersonal behavior, for example, is only one small feature of "reality testing." Within the framework of interpersonal variables, one might include a supplementary measure of the realistic perception by the subject of the interpersonal behavior or social status of others. The measure of self-acceptance also was only a partial index of the adequacy of self-attitudes, and there are a host of other approaches to the measurement of this aspect of psychological health. The measure of personality integration (discrepancy between manifest and latent levels of expression) is also open to criticism on the basis of superficiality. Jahoda's (1958) concept of personality integration was much broader, including the characteristics: a balance of psychic forces in the individual, a unifying cognitive outlook on life and the capacity to withstand stress.

All of the measures of positive adjustment in the study involved *more* or *less* of a trait, or *more* or *less* of a discrepancy between levels of measurement. It can be argued that adjustive behavior is not reflected so much by more or less of a trait or discrepancy as by an optimal amount characterized by equilibrium and flexibility. Leary (1956) for example maintained that the amount of discrepancy between manifest (self ratings, ICL) and latent (TAT) levels of measurement could not be assigned an adaptive or maladaptive value as such but had to be interpreted as part of the total personality picture. Leary regarded the discrepancy between levels as an index of "repression," and he argued that such defense mechanisms should not be looked upon as a negative process. If the self-image of the individual was one-sided and fantasy showed a moderate difference in the other direction, the conflict was not necessarily regarded as maladaptive. The size of the discrepancy by itself had no specific relationship to maladjustment. Ambivalence between levels of measurement instead was evaluated on the basis of its flexibility and moderation. Unfortunately, Leary and his associates provided no operational definitions for an optimal and balanced discrepancy between self-descriptions and expressions at the fantasy level useful for research. Certainly, further attention should be given to the study of difference between manifest and latent levels of expression before an exact interpretation is given to its meaning. Balance and flexibility between levels could be more relevant to positive adjustment than the magnitude of the difference between levels.

In the case of *self-acceptance,* the question again was whether the magnitude of the discrepancy between self and ideal self scores was the key to positive adjustment, or whether it depended upon a balanced and flexible discrepancy. It could be argued for example that absolute self-acceptance (identical self and ideal-self scores on the ICL) is equivalent to conceit or complete self-satisfaction on the part of the individual. Some discrepancy between self and ideal-self concepts might be expected in the normal adolescent who is seeking to stabilize adult identification roles and to widen his range of social interactions. However, the discrepancy should probably be of a degree and quality which on the one hand does not suggest extreme feelings of inadequacy and self-dissatisfaction nor on the other, conceit and apathetic narcissism. The assessment of healthy attitudes toward oneself should include some index of capacity for constructive self-criticism and realistic awareness of limitations, and the use of simple discrepancy scores between levels would not appear to be adequate in this respect.

A higher incidence of independent-dominant interpersonal behavior was assumed to represent more positive adjustment in the present study. However, Angryal (1952) has observed that personality follows a two-way orientation. Both self-determination and self-surrender, for example, exist in the same person to some degree at different times in different situations or relationships. The well-adjusted person, according to Angryal, manifests both of these orientations in a flexible manner. Therefore, a balanced flexibility between independent-dominant and dependent-submissive interpersonal behavior is probably a more defensible definition of positive adjustment than the relative magnitude of these traits in isolation.

It becomes increasingly evident that any system of measurement which hopes to cope with the problems of assessing optimal amounts of traits or a balanced flexibility between traits or discrepancies must also deal with the question of values. Smith (1961) maintains that value judgments are a legitimate and unavoidable condition in the development of concepts of mental health. As a case in point, the Kaiser Foundation Research and Clinical group (Leary, 1956) introduced implicit values when they proposed that an extreme amount of *any* type of interpersonal trait was a correlate of psychopathology. It will be recalled however that the sample of 84 adolescents in the study placed a high desirability upon the possession of responsible-cooperative traits in contrast to the adult population from which the ICL norms were derived. Their ratings of ideal-self in this area of interpersonal behavior exceeded the scores set for moderation and flexibility by the research group. Recent studies of the social climates of high schools suggest that adolescents are becoming cut off more than ever before from adult society, and as a consequence American society now has in its midst a set of small teenage sub-cultures with their own unique social standards and values (Coleman, 1961).

Are we to judge positive adjustment of adolescents on the basis of their own value system or on the basis of adult standards? Setting any arbitrary limit for the optimal or desirable amount of a trait or discrepancy involves a value-judgment. The important objective would seem to be that of making these values more explicit and recognizable in any set of adjustment criteria rather than attempting the impossible task of their elimination. In the original statement of the problem in the present study, previous research definitions of positive adjustment were critically treated because of their exclusive reliance on socially-valued traits. Upon further consideration, the problem of values appears to be inherent in any attempt to assess positive adjustment.

In the present study methods of assessing positive adjustment were articulated with a comprehensive theory of personality diagnosis. In the process of working with the Interpersonal System of Diagnosis, it appeared as if it might be profitable to extend this system of analysis by including a third dimension of interpersonal behavior. The main axes of the interpersonal circle are Dominance-Submission and Hostility-Affection (See Figure 1). Another element of interpersonal relations intimately involved in adjustment is

Approach and Withdrawal. Horney (1945) has described the "moving toward" and the "moving away" types of personality and their pathological correlates. Schutz (1958) has presented a system of personality analysis in which "inclusion needs" are incorporated with the two interpersonal needs, Control and Affection, similar to the two interpersonal dimensions of Dominance and Affection posited by Leary (1956). It was felt that the addition of Approach and Withdrawal as a third dimension of the interpersonal circle would add appreciably to the usefulness of this system of personality diagnosis.

In summary, future research needs to contend more adequately with the problems of definition and measurement of positive adjustment. Experience in the present study suggested that:

1. A multiple-criterion approach should be used with an attempt to measure the various facets of positive adjustment.
2. Criteria of adjustment should be developed within the framework of a comprehensive theory of personality which permits the measurement of inner conflicts and the control functions of the ego as well as overt behavior.
3. Consideration should be given to the development of procedures for measuring optimal, balanced and flexible combinations of traits or discrepancies between levels of measurement. Simple measures of *more* or *less* of a trait or characteristic do not always appear to be valid predictors of positive adjustment.
4. In evaluating research findings on personal and social adjustment, consideration must be given to the source of evidence. Findings in the present study suggested inconsistent values and perceptions of adjustive behavior among subcultural groups of teachers and adolescents. In a school setting, it would seem advisable to obtain evidence not only from teachers or others on the instructional staff, but the peer group and the subjects under study as well.
5. Finally, special care should be given to an explicit definition of the values which underlie criteria of adjustment and assessment procedures.

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APPENDIX

Collective Data on Subjects of Superior and Average Intelligence

	SUPERIOR INTELLIGENCE								AVERAGE INTELLIGENCE					
			C.T.M.M. IQ							C.T.M.M. IQ				
Sex	Subject	CA[a]	TMF	LF	NLF		Social[b] Status	Subject	CA[a]	TMF	LF	NLF		Social[b] Status
BOYS	1	15-11	132	126	145	LOWER CLASS	65	1	16- 3	91	91	90	LOWER CLASS	64
	2	15- 3	126	129	123		67	2	15- 1	100	100	99		73
	3	15-11	127	128	127		54	3	16- 2	103	104	102		69
	4	15- 2	128	125	130		59	4	14-10	93	98	87		72
	5	15- 2	126	137	116		71	5	15- 0	98	95	102		54
	6	15- 6	126	125	126		56	6	15- 7	96	90	102		64
	7	15- 3	129	126	130		61	7	15- 6	103	108	97		65
	8	15- 6	126	126	125		64	8	15-11	105	101	109		60
	9	17- 0	125	124	128		61	9	16-11	96	90	102		61
	10	16- 8	127	127	131		65	10	16- 5	100	95	106		61
	11	15-11	123	120	126		63	11	16- 1	106	102	109		54
	12	15- 4	130	139	120	MIDDLE-UPPER CLASS	41	12	15-10	104	100	107	MIDDLE-UPPER CLASS	47
	13	15-10	127	131	122		26	13	16- 0	102	109	93		44
	14	16- 9	124	128	119		36	14	16-11	97	91	103		13
	15	16- 0	136	132	140		48	15	16- 2	102	99	106		17
	16	17- 3	128	134	118		39	16	17- 3	94	83	106		17
	17	15- 9	127	125	129		36	17	16- 0	98	100	96		50
	18	16- 2	132	146	112		40	18	16- 7	100	105	98		41
	19	15- 7	139	144	134		27	19	15-10	102	103	100		48
	20	16- 3	132	134	130		17	20	16- 7	102	98	108		50
	21	16- 6	132	134	127		26	21	16- 9	105	106	102		39
	22	15- 9	132	128	136		15	22	15-11	109	107	110		34
	23	16- 6	134	151	117		28	23	16- 9	103	108	97		47
	24	17- 5	131	111	151		17	24	17- 8	94	88	103		40
GIRLS	25	15- 4	125	131	119	LOWER CLASS	56	25	15- 8	94	89	98	LOWER CLASS	61
	26	15- 0	127	131	124		57	26	15- 7	105	98	111		53
	27	15- 5	126	135	115		52	27	15- 6	101	99	102		57
	28	15- 8	127	124	131		56	28	16- 4	94	90	102		53
	29	14- 4	124	126	122		60	29	14- 5	96	96	93		60
	30	14- 9	127	130	124		55	30	15- 3	93	86	100		60
	31	15- 7	124	134	115		56	31	16- 2	103	102	104		61
	32	14- 8	120	122	117		53	32	14-11	104	108	99		73
	33	14-11	135	131	140	MIDDLE-UPPER CLASS	28	33	14-10	105	108	103	MIDDLE-UPPER CLASS	30
	34	16- 3	126	132	119		33	34	16- 3	105	112	103		23
	35	15- 3	128	127	129		42	35	15-10	104	100	107		47
	36	16- 8	127	138	110		26	36	17- 3	102	105	97		48
	37	16- 2	130	134	123		40	37	16- 2	105	107	102		48
	38	16- 3	133	145	109		23	38	16- 4	108	106	112		39
	39	16- 3	124	131	114		22	39	16- 4	100	111	85		17
	40	16- 7	129	127	132		22	40	16- 9	98	98	98		16
	41	16- 4	128	132	122		38	41	16- 7	98	95	102		16
	42	14-11	127	133	121		40	42	15- 2	104	103	105		48

[a] CA in years-months

[b] Index of status characteristics

C.T.M.M.=California Test of Mental Maturity

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